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Ontario

Report of the Royal Commission on the Status of Pensions in Ontario

VOLUME VII

Pensions for Ontario Public Sector Employees

Background Studies

1980

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**Pensions for Ontario Public Sector Employees
Background Studies**

The Royal Commission on the Status of Pensions in Ontario

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Ontario

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Ontario Public Sector Pension Plan Data

Laurence Kelly

December 4, 1978

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NUMBER AND MEMBERSHIP OF PENSION PLANS

Table 1 provides the number and membership of plans by size within each sub-sector. These data are as of January 1, 1978 or the latest date as provided by the plan sponsor or Statistics Canada.

Table 1 shows that:

1. Six plans out of 127 with more than 10,000 members each account for 86.5 per cent of the total membership. These are:

	Members
Teachers' Superannuation Fund (TSF)	114,563
Ontario Municipal Employees Retirement System (OMERS)	106,731
Public Service Superannuation Fund (PSSF)	76,712
Hospitals of Ontario Pension Plan (HOOPP)	63,645
Ontario Hydro Pension Plan (Hydro)	20,478
Colleges of Applied Arts and Technology (CAAT)	11,720

2. Twenty-two other plans with between 1,000 and 10,000 members each account for another 10.7 per cent of all members.

3. The remaining 99 plans account for no more than 2.7 per cent of the members.

Out of 127 plans, 46 plans with 14,000 members are closed to new members. Most of these closed plans are in the municipal sector where the new employees are required to join OMERS.

Table 1
Pension Plans and Membership in the Ontario Public Sector

Sub-sector	Active member population: Less than 10	10 to 25	26 to 100	101 to 1,000	1,001 to 10,000	More than 10,000	Total	Per Cent
Provincial government:								
Plans	3	-	7	2	1	1	14	
Members	6	-	363	542	2,264	76,712	79,887	17.6
Municipal government:								
Plans	21	12	4	3	8	1	49	
Members	58	207	137	802	21,080	106,731	129,015	28.3
Health:								
Plans	1	1	-	3	3	1	9	
Members	9	15	-	729	4,712	63,645	69,110	15.2
Education:								
Plans	11	1	10	18	9	2	51	
Members	53	24	562	8,544	19,238	126,283	154,704	34.0
Provincial utilities:								
Plans	-	-	-	-	1	1	2	
Members	-	-	-	-	1,622	20,478	22,100	4.8
Legislative assembly:								
Plans	-	-	-	2	-	-	2	
Members	-	-	-	280	-	-	280	.1
All sectors:								
Plans	36	14	21	28	22	6	127	
Members	126	246	1,062	10,897	48,916	393,849	455,096	
Per cent of members	.0	.1	.2	2.5	10.7	86.5		100.0

SUMMARY OF MAJOR PLAN PROVISIONS

The following pages provide summary descriptions of the major plans in each sub-sector. A brief description of other plans in each sub-sector is also included.

As can be seen in this section, major plans in the Ontario public sector have pension benefits based on average of highest earnings years. Except for the McMaster University Non-contributory Plan (hourly staff) all plans require the employees to contribute.

Table 2.1
Summary of Major Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Provincial Government

	Public Service Superannuation Fund	Workmen's Compensation Board
Enabling legislation	Public Service Superannuation Act - Detailed Plan Provisions - Superannuation Adjustment Benefits Act	Regulations under the Workmen's Compensation Act - Detailed plan provisions
Date established	1920	1940
Type of plan	Average best earnings	Average best earnings
Eligibility conditions:		
- included	Civil servants and full time employees in agencies	Same as PSSF
- excluded	Part-time employees - seasonal and casual	
Employee contributions	7% including CPP and Adjustment Fund	6% including CPP if hired in 1971 or later. Prior to 1971 see Special Conditions
Employer contributions	Matching employees. Amortization of deficiencies is made under OPB Act.	Balance required to fund which amounted to 235% of employee contributions in 1976-77
Vesting conditions	10 years pension credit	Same as PSSF
Unit of pension benefit	2% less CPP offset	Same as PSSF
Earnings base for pension	Best 5-year average - see Special Conditions	Best 5-year average if hired in 1971 or later, see Special Conditions for employees hired earlier
Integration with CPP	.7% offset up to average of final 3-year YMPE for service from January 1966	Same as PSSF
Maximum pension as % of earnings base	70% less CPP offset	Same as PSSF
Retirement conditions and benefit:		
- normal retirement	Age 65 with 10 years' service	Same as PSSF
- early retirement unreduced	Age 60 with 20 years, or age + service = 90	Same as PSSF
- early retirement reduced	Pension reduced by 5% for each year earlier than 65 to age 55	Same as PSSF
Post-retirement indexation provisions:		
- benefit	Ad hoc 1971-75. Regular annual from 1976 based on CPI with ceiling of 8%	Regular ad hoc
- funding	For employees who retired prior to 1976 indexing funded by employer. For employees	Paid from the Fund, see employer contribution

Table 2.1 (continued)
Summary of Major Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Provincial Government

	Public Service Superannuation Fund	Workmen's Compensation Board
Post-retirement indexation provisions: - funding (continued)	who retired in 1976 and later, funding shared equally by employer and employees	
Options	Purchase of military service and eligible past service	Same as PSSF
Survivor benefits:		
- before retirement pension	10 or more years' service - 50% of accrued pension	Same as PSSF
	Less than 10 years' service - return of contributions with interest double if married, single if not	Refund of single contributions with interest
insurance	75% of 1 year's salary, employer paid	1 or 3 times salary. Substantial subsidy by employer
- after retirement pension	50% of pension	Same as PSSF
insurance	$2,000 first year of retirement) $1,750 second year of retirement) $1,500 for life)	If hired prior to 1974 - 50% of insurance while active. If hired after 1974 - $2,000
Disability benefit: - pension benefits	Accrued vested pension payable after 10 years' service if not receiving insured income	Same as PSSF
- income insurance	66.6% of salary with continued pension accruals	Same as PSSF except for maximum payment of $24,000 per year
Portability	Reciprocal agreements with other Ontario public sector plans and other public jurisdictions in Canada	Agreement with Public Service Superannuation Fund only
Fund investments	Separate account maintained by the government to which interest is credited at the average provincial bond rate	Market diversified
Plan administration: - responsibility	Employer	Employer
- financing	Employer	Employer

Table 2.1 (concluded)
Summary of Major Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Provincial Government

	Public Service Superannuation Fund	Workmen's Compensation Board
Collective bargaining:		
- formal	No	No
- other bargaining unit input	1 union representative on 4-member board. Joint consultation committee to discuss all pension issues	Informal consultation
Auditing practice	Audited by the Provincial Auditor each fiscal year	Same as PSSF
Special conditions	Contributors to the PSSF on and before December 31, 1965 are guaranteed they will receive no less from the PSSF plus the CPP under the terms of the Public Service Superannuation Act as at January 1, 1966 than they would have under the old plan as it existed prior to January 1, 1966. (i) For persons retiring at age 65 in 1978 this guarantee affects only employees at very high salary levels. It does, however, substantially increase the entitlement of employees retiring early for all years prior to reaching age 65. (ii) Early retirement with a reduction can occur between the ages of 50 and 60. Maximum reduction of 50% at age 50.	1. Salary includes overtime 2. Employee contribution rate. Employees hired in 1971 or earlier contribute on the basis of a scale related to age from 4.4% to 5.75%, so that most of the senior employees are now paying at a much lower rate than junior employees. This is not done in any other public sector plan. 3. Retirement benefits for those eligible provides pensions for service prior to January 1, 1966 at 2% of average earnings during the 3 highest paid years of the last 10.

Summary of Smaller Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Provincial Government

Ontario Educational Communications Authority: Benefits are generally the same as the PSSF except for post retirement adjustments. Employees contribute 6% including CPP contribution and the employer provides the balance required to fund the plan.

Urban Transportation Development Corporation Ltd: Benefits are generally the same as the PSSF except for post-retirement adjustments and the employee contributions of 5% including CPP.

Art Gallery of Ontario: Benefits and employee contributions are generally the same as the PSSF except that post-retirement adjustments are made on an ad hoc basis.

Other Plans:

All other plans in this sub-sector are on a money purchase basis and generally have a very limited membership.

Table 2.2
Summary of Major Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Municipal

	Ontario Municipal Employees Retirement System	Toronto Transit Commission
Enabling legislation	The Ontario Municipal Employees Retirement System. Detailed plan provisions	No specific pension legislation
Date established	1963	1940
Type of plan	Average best earnings	Career average updated to 1974 salary
Eligibility conditions:		
- included	Where muncipal employers elect to participate in OMERS, all employees with full-time continuous service must participate. Some part-time workers who are "deemed" to be full-time by employing municipality	Full-time employees with 6 months' service or more
- excluded	Casual workers	
Employee contributions	5.5% up to YMPE, 7% above YMPE	6.79% less CPP contributions
Employer contributions	5.5% up to YMPE, 7% above YMPE. Balance required to fund	Matching plus costs for certain supplemental benefits
Vesting conditions	Immediate	In accordance with Ontario Pension Benefits Act
Unit of pension benefit	2% less CPP offset	(1.5% of 3 year YMPE average to 1974 up (to $6,533 - plus 2% of average 3-year (earnings above $6,533 to December 31, (1974 x years of service to 1974, plus (1.5% of earnings up to YMPE plus 2% of (earnings over YMPE for each year from (1975
Earnings base for pension	Best 5-year average	
Integration with CPP	.7% offset up to average of final 3-year YMPE for service from January 1966	
Maximum pension as % of earnings base	70% less CPP offset	70% less CPP offset
Retirement conditions and benefit:		
- normal retirement	Age 65	Age 60 - basic pension is for life guaranteed 5 years
- early retirement unreduced	None - except under supplementary plans, see special conditions	30 years' service
- early retirement reduced	From age 55 with pension actuarially reduced	Age 55 - reduction in accordance with table
Post-retirement indexation provisions		
- benefit	Ad hoc increases 1970-75 totalling approximately 40% paid at the same time as the up-	Ad hoc increases totalling 15% since 1975

Table 2.2 (continued)
Summary of Major Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Municipal

	Ontario Municipal Employees Retirement System	Toronto Transit Commission
Post-retirement indexation provisions (continued)	grading of the career average formula for active employees	
- funding	Fund income	Fund income
Additional voluntary contributions	None - except to supplementary plans which are negotiated	To purchase additional pensions
Options	Three types of satellite plans provide for retirement on unreduced pension at 60 or age 55 with 30 years' service or age 50 with 30 years' service. See supplementary plans under Special Conditions (1)	Joint and last survivor. Life and 10 or 15 years guarantee and level income
Survivor benefits:		
- before retirement		
pension	50% of accrued pension to spouse and 10% for each child to a maximum of 75%. Spouse can take refund of contributions instead of pension.	Return of contributions with interest if no option is selected
insurance	Varies, but average is generally 2 times annual salary paid by the employer	\$5,000-\$15,000 depending on service (1-6 years) 50% employer subsidized
- after retirement		
pension	As before retirement	Depending on option selected
insurance	Varies to a maximum of \$5,000	Nil
Disability benefit:		
- pension benefits	Accrued pension after 10 years' service	Accrued pension after 10 years
- income insurance	Various long-term disability plans in municipalities with continuing pension accrual	66.6% to a maximum of \$2,500 monthly for management; 75% for union members. Employer paid
Portability	Reciprocal agreements with Ontario Government, Federal Government, Colleges of Applied Arts and Technology and a couple of provinces	With Metro Toronto Plan
Fund Investments	Provincial debentures only up to 1975. From 1975 new monies are invested in the market as well as provincial debentures	Diversified market
Plan administration:		
- responsibility	OMERS board	Employer
- financing	Fund income	Fund income

Table 2.2 (continued)
Summary of Major Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Municipal

	Ontario Municipal Employees Retirement System	Toronto Transit Commission
Collective bargaining - formal	Basic plan benefits are not negotiable. Employees in municipalities may negotiate supplementary benefits as well as the amount of the employer subsidy	No
- other bargaining unit input	There are 4 union representatives on the 11-man board	Pension Committee of 4 management and 4 union members
Auditing practice	The OMERS board reports to the Treasurer each year. Audited by Cooper and Lybrand, chartered accountants	Audited by Price, Waterhouse and Company
Special conditions	1. OMERS has a basic overall plan. It also has supplementary plans providing for purchase of past service and early retirement for which each municipality may opt, paying additional contributions depending on the benefits chosen. Employees can negotiate participation in these plans and the employer subsidy 2. Certain part-time employees can be deemed to be continuous full-time employees for pension purposes. These categories include elected municipal officials if the municipality has chosen to have the officials participate. Librarians and school board employees who work 10 months a year on a regular basis (which for teachers is a full year) are also in this group	Red-circled employees aged 50 or over and with 5 or more years in previous job are permitted to contribute at previous job rate

Summary of Smaller Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Municipal

Closed Plans:

These plans have been closed to new members from July 1965 or in accordance with Section 8 of the OMERS Act. All new members contribute to OMERS.

Metro Toronto main plan consists of 11 smaller plans with a total of 3,813 active members. Two of the plans with 2,100 members are on a 2% per year best 5 year average earnings formula. Employee contributions are

Table 2.2 (continued)

Summary of Smaller Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Municipal

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6.5% including CPP. Nine of the plans are updated career average plans, updated to 1971, or provide a 1.33% per year best 5-year average earnings formula stacked or integrated. Contributions range from 3.5% to 4.5% up to the YMPE, and 5% to 6% above YMPE.

Metro Police have a 2.2% per year career average plan updated to 1972 with a minimum guarantee of a 1.5% per year best 5-year average earnings formula. Contributions are 7% of salary including CPP. Normal retirement age is 60. The plan is similar to OMERS prior to changeover to the best 5 formula as of January 1, 1978, except that the CPP offset of .6% is applied only for service after January 1970. There was an ad hoc escalation when the plan was upgraded and in 1975 a further increase of 2.5% for each year of retirement. A recent arbitration award has updated the salary base to 1976. This plan provides for employer and employees to share the cost of residual deficiency payments.

City of Toronto Civic Employees have a best 5-year average earnings formula. Employee contributions are 6.6% including CPP to November 1974 and 7% including CPP after that date.

City of Toronto Firemen have an average best 5-year earnings formula. Contributions are 7.5% including CPP contributions. They have a provision for early retirement of 50 years of age with 30 years of service.

City of Ottawa have an average best 5-year earnings formula which is the same as the new OMERS formula effective January 1, 1978. However, the City of Ottawa had this many years earlier. Employee contributions are based on attained age with a maximum of 8% including CPP.

Town of Mimico. The pension plan has 26 members on the career average basis, and benefits accrue at 2.5% per year for the first 20 years and .5% for each year thereafter for employees hired prior to January 1, 1953. After this date benefits are accrued at 1.5% per year. The maximum permitted is 60% of last 3 years' earnings. Contributions are 6% for firemen and 5% for other employees, and normal retirement is 60 and 65 respectively.

New Toronto. There are 36 employees still in the pension plan. Benefits are accrued on a similar basis to the Town of Mimico with slight variations. Contributions are 5% and benefits are also slightly lower than those for Mimico.

Regional Municipality of Hamilton-Wentworth: Benefits are based on a 2% per year best 5-year average formula, integrated with CPP. Employee contributions are 6.5% of salary for firemen and policemen who retire at age 60, and 5.75% for other employees, and do not include contributions to CPP. Post-retirement adjustments are on an ad hoc basis.

York Employees' Pension and Benefit Plan: Benefits are based on a 2% per year best 5-year average formula, integrated with CPP. Employee contributions are 6.5% for firemen, who retire at age 60, and 6% for other employees, including CPP. Post-retirement adjustments are made on an ad hoc basis.

Table 2.2 (concluded)
Summary of Smaller Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Municipal

Open Plan:

Ottawa-Carleton Regional Transit Commission money-purchase plan. Employees contribute 5% less CPP. Data on employer contributions are available only for 1976 and they appear to be very low: 14% of employee contributions.

A final earnings benefit for designated executives has recently been introduced.

Other Plans:

All other plans in this sub-sector have very limited membership and are on a money purchase basis.

Table 2.3
Summary of Major Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Health

	Hospitals of Ontario Pension Plan
Enabling legislation	Section 32 of the Health Insurance Act 1972 provides general authority for the flow of provincial funds
Date established	1960
Type of plan	Average best earnings
Eligibility conditions:	
- included	All permanent full-time employees of a member hospital may join after 6 months continuous service and must join after 2 years
- excluded	Part-time employees except those who are "deemed" to be full-time by the employing hospital
Employee contributions	4.5% YMPE - 6% above YMPE
Employer contributions	Balance required to fund. Currently 1.58% of employee contributions
Vesting conditions	10 years' service
Unit of pension benefit	2% less CPP offset
Earnings base for pension	Best 5-year average
Integration with CPP	.6% offset up to average of final 3-year YMPE for service from January 1966
Maximum pension as % of earnings base	70% less CPP offset
Retirement conditions and benefit:	
- normal retirement	Age 65
- early retirement unreduced	62 years of age with 20 years of service
- early retirement reduced	Reduced by 1/2 of 1% for each month earlier than 65 to age 55
Post-retirement indexation provisions	Nil
Additional voluntary contributions	To purchase additional pension
Options	If survivor and orphans' benefit is applicable there is no option. If not, there are life annuities with 5 and 10 year guarantees available, also integration with OAS
Survivor benefits:	
- before retirement pension	10 or more years' service - 50% of accrued pension. Less than 10 years - return of contributions with interest
insurance	$3,000 or twice salary. Average of 80% of premiums paid by employer.
- after retirement	
pension	50% of pension
insurance	$3,000 or if service less than 15 years, $200 for each completed year of service

Table 2.3 (continued)
Summary of Major Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Health

	Hospitals of Ontario Pension Plan
Disability benefit	
- pension benefits	If 45 with 10 years of service, normal pension calculation is reduced by 1/4 of 1% for each month prior to age 62
- income insurance	60% of salary
Portability	Reciprocal agreements with the Ontario Government, the Federal Government, the Colleges of Applied Arts and Technology, and 5 hospitals not in HOOPP
Fund investments	Market diversified
Plan administration:	
- responsibility	Employer association
- financing	Fund income
Collective bargaining:	
- formal	None
- other bargaining input	None
Auditing practice	Audited by Clarkson, Gordon and Company, chartered accountants
Special conditions	The .6% offset for CPP provides a better benefit than most other plans in the public sector. Pensions are provided for retirement at 65 even if employee has less than 10 years of service. Additional pension may be purchased with voluntary contributions at time of retirement

Summary of Smaller Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Health

Kitchener-Waterloo Hospital: The major features are similar to the Hospitals of Ontario Pension Plan.

Kingston General part-time employees: Kingston General belongs to HOOPP for its full-time employees, but it has established a separate plan with the same benefits for designated part-time employees.

Hospital for Sick Children: The plan is separate from HOOPP, but generally the main features are the same. Ad hoc escalation payments have been provided by the employer.

Toronto Western Hospital: The major features are similar to HOOPP.

Ontario Cancer Institute: The plan is quite different from plans in the hospital field. It provides a benefit based on the better of a money-purchase plan or a best 5-year average. It has a 3 year vesting period and has a CPP offset of .5% of the final 5-year average for service from 1966. There have been 2 ad hoc escalation adjustments provided by the employer.

Table 2.3 (concluded)
Summary of Smaller Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Health

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Sunnybrook Hospital: The bulk of the employees belong to the Hospitals of Ontario Pension Plan. However, there is a closed plan for less than 200 employees who were once employed in the federal civil service. Contributions are 6.5% including CPP. Normal retirement age is 60 with 5 years' service. The earnings base for the pension is the best 6-year average. There is no indexing.

Other Plans:

Two more plans in this sub-sector are on a money purchase basis.

Table 2.4
Summary of Major Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Education

	Teachers' Superannuation Fund
Enabling legislation	Teachers' Superannuation Act - Detailed Plan Provisions, Superannuation Adjustment Benefits Act
Date established	1917
Type of plan	Average best earnings
Eligibility conditions:	
- included	Holder of a teaching certificate and employed as a teacher or full time in any capacity by a school board, a ministry, a teachers' association, a trustee association or similar organization defined in the Teachers' Superannuation Act
- excluded	Employees who teach less than 20 days in a year
Employee contributions	7% including CPP and adjustment fund
Employer contributions	Matching employees. Amortization of deficiencies is made under OPB Act.
Vesting conditions	10 years pension credit
Unit of pension benefit	2% less CPP offset
Earnings base for pension	Best 7-year average
Integration with CPP	.7% offset up to YMPE in final year of service from January 1966
Maximum pension as % of earnings base	70% less CPP offset
Retirement conditions and benefit:	
- normal retirement	65 with 10 years
- early retirement unreduced	Age + service = 90
- early retirement reduced	55 years of age with 30 years of service reduced by 5% for each year less than 62. If less than 30 years of service reduced by 5% for each year less than 65
Post-retirement indexation provisions:	
- benefit	Ad hoc 1971-75. Regular annual from 1976 based on CPI with ceiling of 8%
- funding	For employees who retired prior to 1976 indexing funded by employer. For employees who retired in 1976 and later, funding shared equally by employer and employees
Options	Early retirement
Survivor benefits:	
- before retirement	
pension	10 or more years' service - 50% of accrued pension. Less than 10 years - return of contributions with interest
insurance	Varies with boards with 3 times annual salary wholly paid by the employer as upper limit

Table 2.4 (continued)
Summary of Major Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Education

	Teachers' Superannuation Fund
Survivor benefits: (continued)	
- after retirement	
pension	50% of pension
insurance	Varies with boards
Disability benefit:	
- pension benefits	10 or more years' service - accrued pension - see Special Conditions for partial disability
- income insurance	Long-term disability plans, including pension accruals. Coverage may vary with boards
Portability	Reciprocal agreements with other teacher jurisdictions in Canada, public sector in Ontario, various other educational institutions. Otherwise refunds of single contributions with interest. Deferred annuities where applicable
Fund investments	Non-marketable Ontario Debentures
Plan administration:	
- responsibility	The Teachers' Superannuation Commission is responsible for the administration of the Teachers' Superannuation Act and reports to the Minister of Education. The day to day administration is delegated to the Teachers' Superannuation Commission, 6 appointed by the minister, 5 elected by teachers' organizations
- financing	Salaries and expenses paid out of fund
Collective bargaining:	
- formal	No
- other bargaining input	Ontario Teachers' Federation discusses change to act directly with the Minister of Education
Audit practice	Audited by the Provincial Auditor or as designated by him
Special conditions	1. Teachers can leave money in the fund even with less than 10 years' service, return to work and have continuous service for all purposes. 2. Partial disability (i.e., disabled for teaching, but not other professions) to commence at any age with 10 years' service. Maximum reduction of 25% (.5% for each year less than 65). 3. Earnings base for pension is the best 7-year average. Most other public sector plans on a final average basis are on best 5 years. 4. Teachers who become members of the council of a municipality, the Legislative Assembly of Ontario, or the House of Commons of Canada, may make contributions for this service if they are again employed as teachers for not less than 20 school days in a year. This does not prohibit them from membership in the pension plans of these institutions for the same period.

Table 2.4 (continued)
Summary of Major Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Education

	Teachers' Superannuation Fund
Special conditions (continued)	
	5. In addition to unpaid periods of absence for such matters as pregnancy, compassionate leave, etc., in respect of which most plans permit members to contribute, teachers may also contribute for periods of travel, study, or sabbatical leave for up to 2 years.

Colleges of Applied Arts and Technology The benefit is based on the best 7 years' salary, 2% per year less the CPP offset. The plan is generally similar to the Teachers' Superannuation Fund, except that ad hoc post retirement benefits are paid entirely by the employer. It has very few pensioners compared to contributors as it is a relatively new plan, commencing in 1966. The plan provides for early retirement on unreduced pension at age 60 plus 20 years' service and when the total of age and service equals 90.

	University of Toronto	Queen's University
Enabling legislation	Act establishing university provides general authority for expenditure of funds	Act establishing university provides general authority for expenditure of funds
Date established	1919	Revised Plan 1969
Type of plan	Average best earnings	Money purchase - variable annuities with minimum final earnings guarantee
Eligibility conditions:		
- included	Full-time academics, administrative and support staff from age 25. Part-time academics if earning more than 40% of YMPE	Full-time academic, administrative, and support staff from age 25
Employee contributions	Full-time service: 2.5% to YMPE and 5% over Part-time service: 5%	4.5% to YMPE and 6% over YMPE
Employer contributions	Balance required	Balance required
Vesting conditions	10 years' service except for transfer to RRSP and other plans - see special conditions	Immediate
Unit of pension benefit	Under 45 - .75% to YMPE, 1.5% over YMPE over 45 - 1% to YMPE, 2% over YMPE	Variable annuity with minimum guarantee of 1.3% of the average best 5 years to YMPE + 1.75% over YMPE per year of service
Earnings base for pension	Best 5-year average	Minimum guarantee based on best 5-year average

Table 2.4 (continued)
Summary of Major Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Education

	University of Toronto	Queen's University
Integration with CPP	As described under Unit of Pension Benefit	As described under "Unit of Pension Benefit"
Maximum pension as % of earnings base	In accordance with Department of National Revenue Regulations	In accordance with Department of National Revenue Regulations
Retirement conditions and benefit:		
- normal retirement	Age 65	Age 65
- early retirement unreduced	Age 60 only with agreement by board	Not applicable
- early retirement reduced	5% for each year less than 65 to age 55	Earlier than age 65 to age 55 - minimum guarantee is actuarially reduced
Post-retirement indexation provisions:		
- benefit	Ad hoc	Ad hoc
- funding	Fund income	Fund income
Options	Life with 5, 10, 15 years guaranteed, last survivor and level income options	Life with 5, 10, 15 years guaranteed, last survivor and level income options
Additional voluntary contributions	To purchase above options	To purchase above options
Survivor benefits:		
- before retirement pension	10 or more years' service -1/2 accrued pension. Less than 10 years - return of contributions with interest - double if married, single if not	Twice member's contributions + interest
insurance	Compulsory: 1 x salary) 100% employer Voluntary: 1 x salary) 48% employer 2 x salary) subsidy	Voluntary: 1 x salary 55% employer subsidy 3 x salary (with dependents) - 55% employer subsidy
- after retirement pension	One-half to widow or children under 21. 5-year guarantee applies otherwise	In accordance with option chosen
Disability benefit:		
- pension benefits	With board approval, accrued pension if employee deemed to be unable to perform job and not entitled to long-term disability	Contributions paid to long-term disability

Table 2.4 (continued)
Summary of Major Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Education

	University of Toronto	Queen's University
Disability benefit: (continued) - income insurance	Long-term disability - 70% of salary, maximum $36,000 with continued pension accrual	Voluntary: 65% to $7,200) 55% to $10,800) 3% COLA 40% on balance)
Portability	Reciprocal agreements with Ontario government, federal government, Teachers' Superannuation Fund. Employee and employer contributions + 4% compounded interest may be transferred to a locked-in RRSP or other employer's fund	Employee and employer contributions may be transferred to a locked-in RRSP or other employer's fund
Fund investments	Diversified market	Diversified market
Plan administration: - responsibility	Employer	Employer and employee with investment consultants
- financing	Fund income	Fund income. Records maintained by employer
Collective bargaining: - formal	No	No
- other bargaining input	Representatives of faculty and administrative staff associations are members of committee for making recommendations	Input by staff to pension committee
Auditing practice	No information	No information
Special conditions	1. Offset for CPP goes back for service prior to 1966. 2. Discrimination between service before and after age 45. 3. Part-time employees are included for pension purposes. 4. Full portability with employee and employer contributions transferred to registered pension plans, and RRSPs with the provision that they be locked-in.	The university plans have a number of features which are unique and Queen's is a leader. 1. Full portability of employee and employer contributions is available as long as the registered pension plans or registered retirement savings plans will lock-in the contributions. 2. A variable annuity referred to as the money purchase component with a minimum guarantee on a final 5-year average basis is the basic benefit provided. The minimum guarantee

Table 2.4 (continued)
Summary of Major Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Education

	University of Toronto	Queen's University
Special conditions (continued)		has rarely been used as the variable annuity has been consistently paying more to date. 3. Queen's and other universities offset CPP for all service including the years prior to 1966.

Summary of Smaller Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Education

University of Ottawa: The benefit is based on best 5 years' salary: 1.3% to YMPE; 2% over YMPE. The employer contribution is 6% integrated with CPP. Automatic indexing of 2%, employer paid.

McMaster University: The benefit is based on best 5 years' salary: 1.05% to YMPE + 1.5% over YMPE for service before age 45 + 1.4% to YMPE + 2% over YMPE for service after age 45.

The employee contribution is 5% integrated with CPP. Ad hoc pension escalation - employer paid. Regular part-time employees are covered from April 1975.

McMaster University - Hourly Staff: This is the only flat rate benefit non-contributory plan in the Ontario public sector. The benefit in 1977 is $5 per month per year of service for 2 groups and $5.25 for one group.

University of Waterloo: The benefit is based on best 5 years' salary: 1.3% to YMPE, 2% over YMPE. The employee contribution is 6.5% integrated with CPP. Automatic pension indexing to 5%, more if funds are available, employer paid.

York, Carleton, Laurentian, Windsor (faculty), Wilfrid Laurier, and Brock Universities: The benefits and contributions appear to be similar to those provided by Queen's University, except that Brock University does not apply the CPP offset to years prior to 1966.

University of Western Ontario: The plans for academic and administration employees are now money-purchase plans - the academic plan from July 1970 and the administration plan from May 1974. Final average salary guarantees are provided to members who were hired before these dates.

Huron College: Union members have an updated career average plan with a benefit of 1.75% per year of service. For non-union members the benefit is 1.5% to YMPE and 2% above YMPE. Employee contribution rate is 6%.

Algoma University College: Benefit is based on best 5 years. Benefit is .75% up to YMPE plus 1.75% over YMPE. Employee contributions are 2% up to YMPE and 5% over YMPE.

Lakehead University - Faculty: Based on best 5 years. Benefit is 1.1% to YMPE and 1.6% over YMPE prior to January 1, 1976 and 1.2% to YMPE and 1.75% over YMPE after January 1, 1976. Employee contributions are 6.5% less CPP.

Table 2.4 (concluded)
Summary of Smaller Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Education

University of Guelph Professional Staff and Ex-civil Service Staff: Both these plans provide for a benefit of 1.05% up to YMPE and 1.5% over YMPE for service up to age 45. Over age 45 the benefit is 1.4% to YMPE and 2% over the YMPE. The CPP offset is applied to all years of service prior to 1966. Employee contributions are 6% including CPP. Employees may transfer double contributions to a locked-in RRSP or other plan.

University of Guelph - Staff: Based on best 5 years. Benefits are .9% to YMPE plus 1.5% over YMPE. Contributions are 5% including CPP.

Trent University: Based on best 5 years. Benefits are 1% to YMPE and 2% over YMPE. Employee contributions are 3% to YMPE and 6% over YMPE.

This plan permits the transfer of double contributions even where they are not locked-in. An additional voluntary plan exists which the employer subsidizes at the rate of 118% of the employee's contribution.

Lakehead - Staff: Benefits guaranteed at twice member's contributions accumulated with credited interest. Employee contributions are 5% less contributions to CPP.

Ryerson Polytechnical Institute and Ontario Institute for Studies in Education: The benefits in both plans are based on best 5 years' salary. The Ryerson plan is administered by OMERS Board.

University of Windsor Retirement Plan: The benefit is based on best 5 years' salary. Unit of benefit is 1.28% to YMPE, 2% over YMPE.

Other Plans:

The remaining plans in this sub-sector are mostly for boards of education or colleges affiliated with universities. These plans are all on a money purchase basis, except that North York Board of Education and St. Michael's (Faculty) at the University of Toronto have updated career average plans.

Table 2.5
Summary of Major Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Provincial Utilities

	Ontario Hydro Corporation	Ontario Northland Transportation Commission
Enabling legislation	The Power Corporation Act and Regulations - Detailed Plan Provisions	Detailed Plan Provision in regulations under Ontario Northland Transportation Act, Section 8
Date established	1923	1960
Type of plan	Average best earnings	Average best earnings
Eligibility conditions:		
- included	All regular employees immediately. Employees affiliated with office and Professional Employees International Union after 6 months' service	All regular employees immediately. Seasonal employees included after 6 months' cumulative service
- excluded	Temporary tradesmen (usually get pensions through union or welfare funds), probationary	All other non-permanent employees
Employee contributions	3.43% to YMPE - 5% above YMPE	6% including CPP
Employer contributions	Balance which amounted to 14.38% of payroll in 1976	Matching employees plus deficiencies
Vesting conditions	1 year for retirement, 10 years for disability	10 years pension credit
Unit of pension benefit	2% less CPP offset	Same as Hydro
Earnings base for pension	Best 5-year average	Same as Hydro
Integration with CPP	.625% offset up to average of final 5-year YMPE for service from January 1966	.7% offset up to average of final 5-year YMPE for service from January 1966
Maximum pension as % of earnings base	70% less CPP offset	Same as Hydro
Survivor benefits:		
- before retirement		
pension	10 or more years' service - 50% accrued pension. Less than 10 years - return of contributions with interest	Same as Hydro
insurance	Partly term and partly paid up. 1 x annual salary compulsory. Optional up to 2 or 3 x annual salary. Substantial subsidy by employer	Union employees - $9,000 Salaried employees single 1 x salary)employer paid married 2 x salary)
- after retirement		
pension	50% of pension	Same as Hydro

Table 2.5 (continued)
Summary of Major Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Provincial Utilities

	Ontario Hydro Corporation	Ontario Northland Transportation Commission
Survivor benefits: (continued)		
insurance	Average paid up insurance policy of $10-$12,000	Union - 60 years of age + 10 years' service - approximately $3,000 Management - varying amounts of paid up insurance depending on early retirement attainment age 70. At 65 can be $10,000 decreasing at 70.
- pension benefits	Accrued pension after 10 years'of service	Accrued pension after 10 years' service
- income insurance	60% of base earnings with continuing pension accruals	None
Portability	Reciprocal agreements with Ontario Government, the Federal Government, Governments of New Brunswick, Manitoba, and OMERS	None
Retirement conditions and benefit:		
- normal retirement	Age 65 - no minimum service requirement	Age 65 with 10 years' service
- early retirement unreduced	Age 60 for females hired prior to January 1976. Age 60 plus 25 years of service all employees	Age 55 plus years of service totalling 85 or more. Age 60 with 20 years of service
- early retirement reduced	(i) Age 55 + 25 years of service - small non-actuarial reduction from age 60 (ii) Age 55 + 15 years of service - small non-actuarial reduction from age 65 (iii) Females hired prior to January 1965 age 50 + 15 years of service - same as (ii)	None
Post-retirement indexation provisions:		
- benefit	Ad hoc 1971-1975 matching PSSF - have continued from 1976 to date at half rate of PSSF since no employee contributions are required	Ad hoc
- funding	Fund income	Fund income

Table 2.5 (concluded)
Summary of Major Plan Provisions - Ontario Public Sector Pension Plans, Sub-sector: Provincial Utilities

	Ontario Hydro Corporation	Ontario Northland Transportation Commission
Options	Early retirement	Early retirement
Fund investments	Diversified market	Diversified market
Plan administration:		
- responsibility	Employer	Employer
- financing	Employer	Employer - except expenses of employee representatives on board which are paid by fund
Collective bargaining:		
- formal	Yes	Yes
Auditing practice	Audited by Clarkson Gordon	Audited by Provincial Auditor
Special conditions	1. Early retirement. Nominal reduction. An employee with 15 years' service between 55 and 65 has a maximum reduction at 55 of 25% 2. Contributions are lowest in the public sector and some of the best benefits are provided 3. The .625% offset for CPP and the averaging of the YMPE for 5 years are better than most plans in the public sector 4. If re-employed after 1 year, no linking of past with future service is permitted	1. Contributions cease after 35 years 2. Unreduced early retirement at 85 points 3. Averaging of YMPE over 5 years

AGE, SEX, AND SERVICE PROFILE OF ONTARIO PUBLIC SECTOR PENSION PLAN MEMBERSHIP

Table 3 gives the age, sex, and pension service distribution of members of all Ontario public sector pension plans.

Tables 3.1, 3.2a, 3.2b, 3.3, 3.4, 3.4a, 3.4b, 3.5, 3.6a and 3.6b provide the age, sex, and pensionable service breakdown for the pension plans membership in the provincial government and agencies, municipal (open), municipal (closed), health, education (all plans), Teachers' Superannuation Fund and Colleges of Applied Arts and Technology, Ryerson Polytechnical Institute, universities, provincial utilities, Legislative Assembly, and Caucus Employees Plan respectively. These tables include part-time membership separately where information was available. "No breakdown" category was added to some of the tables in order that the total of each sub-sector matches the aggregate membership in each sub-sector.

Tables 3A, 3B, 3C, 3D, 3E, and 3F give the percentage distribution by length of pensionable service for each age and sex group separately for provincial government and agencies, municipal (open), municipal (closed), health, education, and provincial utilities respectively.

Table 3
Ontario Public Sector Pension Plan Active Members, All Sub-sectors, by Age and Sex, December 1977

Pension service	Less than 20		20–24		25–29		30–34		35–39		40–44		45–49		50–54		55–59		60–64		65 or more		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
(Years)												(Number)												
Less than 5	190	608	6302	15447	14703	21140	7994	9061	4300	6127	2794	4333	2261	3143	1833	2238	1264	1255	662	435	96	53	42399	63840
5– 9			222	760	8321	15226	12611	9579	6377	5985	4375	4825	3479	4467	2880	3811	2362	2566	1469	1375	182	124	42278	48718
10–14					397	523	7089	5036	7903	3259	4296	2439	3373	2779	2786	2821	2351	2563	1804	1821	161	168	30160	21409
15–19							230	230	4440	2147	4234	1339	2728	1424	2212	1611	1803	1687	1388	1296	110	111	17145	9845
20–24									341	143	2939	1077	3507	932	2485	1083	1919	1161	1320	1043	92	81	12603	5520
25–29											213	74	2309	675	2960	552	1861	496	1057	483	99	39	8499	2319
30–34													155	64	1316	476	1665	406	680	255	46	17	3862	1218
35+														1	94	28	454	250	540	306	37	19	1125	604
Total	190	608	6524	16207	23421	36889	27924	23906	23361	17661	18851	14087	17812	13485	16566	12620	13679	10384	8920	7014	823	612	158071	153473
No service breakdown	0	0	200	670	735	1193	1289	1122	1316	872	1181	698	1077	660	971	579	806	353	486	177	63	27	8124	6351

	M	F
Sex breakdown only	70782	36318
Sub-total	433119	
No breakdown	21977	
Total	455096	

Table 3.1
Ontario Public Sector Pension Plan Members, Provincial Government and Agencies, by Age and Sex, December 1977

Pension service	Less than 20		20–24		25–29		30–34		35–39		40–44		45–49		50–54		55–59		60–64		65 or more		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
(Years)	(Number)																							
Less than 5	110	483	2501	4440	3956	3404	2246	1825	1367	1102	1060	930	1000	726	859	635	625	343	286	124	47	16	14057	14028
5– 9			142	434	3017	1900	2931	1282	1666	1012	1342	867	1182	896	1219	921	1071	639	677	356	50	13	13297	8320
10–14					241	183	1880	491	1653	379	1021	371	975	471	1088	615	1135	686	949	494	34	17	8976	3707
15–19							104	54	906	148	1124	163	920	250	968	409	954	543	827	407	17	8	5820	1982
20–24									165	33	777	106	966	124	862	195	754	244	596	231	17	1	4137	934
25–29											78	15	469	59	706	63	516	83	322	79	12	1	2103	300
30–34													53	16	440	41	550	40	229	31	5	2	1277	130
35+														1	35	4	132	29	136	42	11	1	314	77
Total	110	483	2643	4874	7214	5487	7161	3652	5757	2674	5402	2452	5565	2543	6177	2883	5737	2607	4022	1764	193	59	49981	29478

Sub-total	79459
No breakdown	427
Part-time	1
Total	79887

Table 3.2a

Ontario Public Sector Pension Plan Members, Municipal Open Plans, by Age and Sex, December 1977

Pension service	Less than 20		20-24		25-29		30-34		35-39		40-44		45-49		50-54		55-59		60-64		65 or more		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
(Years)												(Number)												
Less than 5	13	13	511	141	1068	46	871	36	533	25	330	14	238	22	130	19	43	5	15	3	2		3754	324
5- 9			11	10	207	30	432	14	299	9	304	8	187	11	105	12	48	6	15	2	2		1610	102
10-14					7	3	195	14	344	6	314	6	220	4	184	1	79	1	18	7	9		1370	42
15-19							7	2	58	3	171	1	211	6	172	5	87	3	34		2		742	20
20-24									9	2	75	3	235	1	221	8	180	4	79		12		811	18
25-29											3	1	84	1	224	6	223	2	161	2	19	1	714	13
30-34													6	1	57	2	154		112	3	16	1	345	7
35+															7		32	1	39		6	1	84	2
Total	13	13	522	151	1282	79	1505	66	1243	45	1197	33	1181	46	1100	53	846	22	473	17	68	3	9430	528
(a)					14	31	9	12	2	11	2	5		7	2	11	3	3	1	3		1	33	84
OMERS(b)	5933 M		5604 F		20193 M		9683 F		14820 M		7225 F		16724 M		7794 F		12533 M		4967 F		407 M	147 F	70610	35420
																							80073	36032
																					Sub-total		116105	
																								46(c)
																								701(d)
																					Total		116852	

a Metro Association for Mentally Retarded breakdown by age and sex only.
b No breakdown available for 6 plans. Figure also includes part-time.
c OMERS breakdown available by sex and decennial age group only.
d Transfers into OMERS from Oshawa and Etobicoke plans on January 1, 1978.

Table 3.2b
Ontario Public Sector Pension Plan Members, Municipal Closed Plans, by Age and Sex, December 1977

Pension service	Less than 20		20–24		25–29		30–34		35–39		40–44		45–49		50–54		55–59		60–64		65 or more		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
(Years)											(Number)													
Less than 5		1							1						1				1				3	1
5– 9					30	1	33	2	3				5			3	3		3	2		1	77	9
10–14					19		545	53	416	45	300	54	245	71	179	70	127	51	56	31	4	4	1891	379
15–19							3	2	435	15	457	24	317	39	202	52	179	68	121	38	21	8	1735	246
20–24									19		307	6	569	14	378	32	339	35	237	36	35	2	1884	125
25–29											4		155	3	311	2	109	6	47	2	13	2	639	15
30–34															104		217	2	65	2	8		394	4
35+															2	1	17		24	2	7		50	3
Total		1			49	1	581	57	874	60	1068	84	1291	127	1177	160	991	162	554	113	88	17	6673	782
(a)							61	10	146	11	186	1	181	22	202	25	226	27	122	29	14	6	1138	131
																							7811	913
																					Sub-total		8724	
																							3439(b)	
																					Total		12163	

a Hamilton/Wentworth – breakdown by age only.
b No breakdowns available for 16 plans. Figure includes 5 part-time employees.

Table 3.3
Ontario Public Sector Pension Plan Members, Health Sub-sector, by Age and Sex, December 1977

Pension service	Less than 20		20-24		25-29		30-34		35-39		40-44		45-49		50-54		55-59		60-64		65 or more		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
(Years)													(Numbers)											
Less than 5	13	38	529	4997	1082	6662	932	3140	592	2152	466	1805	402	1438	435	1091	335	661	251	230	34	29	5071	22243
5- 9			26	84	429	2635	697	2776	638	2382	532	2083	537	2094	493	1932	522	1408	431	792	90	79	4395	16265
10-14					22	50	194	513	269	828	203	756	293	1095	273	1281	332	1236	352	976	79	122	2017	6857
15-19							15	10	74	172	81	237	151	434	155	558	167	640	163	558	47	75	853	2684
20-24									4	5	56	71	77	170	163	329	150	471	152	463	11	58	613	1567
25-29											1	1	10	30	18	13	50	40	73	89	25	28	177	201
30+																3	6	3	4	5	5	7	15	18
Total	13	38	555	5081	1533	9347	1838	6439	1577	5539	1339	4953	1470	5261	1537	5207	1562	4459	1426	3113	291	398	13141(a)	49835(a)

	M	F
	165(b)	893(b)
Part-time	7(c)	5(c)
Sub-total	64046	
	4644(d)	
No breakdown	420	
Total	69110	

a HOOPP data effective December 1976.
Ontario Cancer Institute June 1977.
b Kitchener-Waterloo Hospital data broken down differently so only total used.
c Kingston General Hospital has a separate plan for 9 designated part-time employees: 7 males, 2 females.
Ontario Cancer Institute includes in its plan 3 female part-time employees.
d HOOPP increase for 1977 and transfers from North York Branson Hospital on January 1, 1978.

Table 3.4
Ontario Public Sector Pension Plan Members, Education Sub-sector(a), by Age and Sex, December 1977

Pension service	Less than 20		20-24		25-29		30-34		35-39		40-44		45-49		50-54		55-59		60-64		65 or more		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
(Years)													(Number)											
Less than 5	5	25	1359	5205	6622	10609	2839	3879	1194	2753	616	1534	421	915	279	473	181	229	84	75	11	6	13611	25703
5- 9			16	210	3544	10304	7141	5339	3024	2501	1690	1812	1209	1401	799	895	535	479	279	215	38	27	18275	23183
10-14					49	258	3654	3835	4751	1950	2155	1201	1406	1097	878	807	573	567	357	303	29	25	13852	10043
15-19							77	153	2710	1763	2214	894	1018	672	611	563	346	413	202	286	18	20	7196	4764
20-24									67	90	1221	859	1124	599	510	483	234	379	131	302	7	20	3294	2732
25-29											52	50	747	552	752	430	320	332	124	295	7	6	2002	1665
30-34													39	42	419	410	439	341	140	207	4	7	1041	1007
35+															15	19	175	212	248	253	10	16	448	500
Total	5	25	1375	5415	10215	21171	13711	13206	11746	9057	7948	6350	5964	5278	4263	4080	2803	2952	1565	1936	124	127	59719	69597
(b)			200	670	721	1162	1219	1100	1168	850	993	692	896	631	767	543	577	323	363	145	49	20	6953	6136
																							66672	75733
																					Sub-total		142405	
																					No breakdown		12089	
																					Part-time		210	
																					Total		154704	

a Although included in this statement, the following plans are also shown separately: TSF, Colleges, Universities, and Ryerson.
b Colleges, Ryerson, and OISE breakdown available only by age.

Table 3.4a
Ontario Public Sector Pension Plan Members, Education Sub-sector, Teachers' Superannuation Fund, by Age and Sex, December 1977

Pension service	Less than 20		20-24		25-29		30-34		35-39		40-44		45-49		50-54		55-59		60-64		65 or more		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
(Years)													(Number)											
Less than 5	3	13	1286	5079	6287	10272	2044	3389	636	2358	321	1241	202	671	90	282	49	110	20	32	5	4	10943	23451
5- 9			16	204	3483	10149	6679	5087	2107	2193	1010	1580	705	1131	444	632	223	298	77	101	15	14	14759	21389
10-14					45	245	3593	3797	4377	1840	1656	1104	961	992	544	661	313	416	156	208	8	14	11653	9277
15-19							77	153	2689	1757	2130	874	843	643	455	521	232	373	120	259	8	17	6554	4597
20-24									66	89	1207	856	1064	587	418	462	168	363	80	281	2	16	3005	2654
25-29											50	50	734	449	711	417	257	321	75	284	4	6	1831	1627
30-34													38	42	414	406	397	333	100	189	1	6	950	976
35+															14	19	172	210	215	246	5	16	406	491
Total	3	13	1302	5283	9815	20666	12393	12426	9875	8237	6374	5705	4547	4615	3090	3400	1811	2424	843	1600	48	93	50101	64462
(a)			185	618	671	1034	1104	956	1034	743	860	625	788	579	697	506	518	291	320	127	44	20	6221	5499
(b)			15	52	43	83	88	72	94	61	101	28	78	32	53	16	46	19	39	10	4		561	373
																					Total		127217	

a College of Applied Arts and Technology - no service breakdown available.
b Ryerson Polytechnical Institute - no service breakdown available.

Table 3.4b

Ontario Public Sector Pension Plan Members, Education Sub-sector, Universities, by Age and Sex, December 1977

Pension service	Less than 20		20-24		25-29		30-34		35-39		40-44		45-49		50-54		55-59		60-64		65 or more		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
(Years)	(Number)																							
Less than 5	2	12	64	115	327	325	788	484	551	391	288	289	211	240	183	188	123	115	62	41	6	2	2605	2202
5- 9				4	61	136	455	248	914	305	669	231	494	268	345	258	305	175	199	111	23	13	3465	1749
10-14					4	7	60	36	360	109	491	97	435	96	315	139	246	145	189	95	21	11	2121	735
15-19									16	5	80	18	168	29	137	40	90	34	67	21	10	3	568	150
20-24										1	10	1	56	10	84	18	58	15	44	20	5	4	257	69
25-29											2		12	2	35	13	60	9	45	10	3		157	34
30-34													1		4	4	40	8	40	18	3	1	88	31
35+															1		3	1	32	7	5		41	8
Total	2	12	64	119	392	468	1303	768	1841	811	1540	636	1377	645	1104	660	925	502	678	323	76	34	9302	4978

Sub-total	14280
No breakdown(a)	11521
Part-time(b)	208
Total	26009

a Totals only available for 20 plans covering 11,520 members. For 11 plans date is for December, 1976.

b Part-time employees in University of Toronto Plan: 107 males, 101 females.

Table 3.5
Ontario Public Sector Pension Plan Members, Provincial Utilities, by Age and Sex,(a) December 1977

Pension service	Less than 20		20–24		25–29		30–34		35–39		40–44		45–49		50–54		55–59		60–64		65 or more		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
(Years)	(Numbers)																							
Less than 5	49	48	1398	655	1960	386	1091	164	600	84	313	41	188	35	118	14	75	10	24		1		5817	1437
5– 9			27	22	1094	353	1375	163	746	77	499	53	356	61	262	46	180	29	63	6	2	1	4604	811
10–14					59	29	620	130	470	51	299	51	228	39	180	46	100	22	68	9	3		2027	377
15–19							24	9	257	46	186	20	109	23	104	24	68	19	40	7	4		792	148
20–24									77	13	503	32	536	24	351	36	260	28	124	11	10		1861	144
25–29											75	7	844	30	949	38	643	33	330	16	23	1	2864	125
30–34													57	5	296	20	299	20	130	7	8		790	52
35+															35	4	98	8	93	9	3	1	229	22
Total	49	48	1425	677	3113	768	3110	466	2150	271	1875	204	2318	217	2295	228	1723	169	872	65	54	3	18984	3116
																					Total		22100	

a No sex breakdown provided for Ontario Northland Transportation Communication. Figures calculated based on total mix.

Table 3.6a

Ontario Public Sector Pension Plan Members, Provincial Legislature Sub-sector, Legislative Assembly Members, by Age and Sex, December 1977

Pension service	Less than 20		20-24		25-29		30-34		35-39		40-44		45-49		50-54		55-59		60-64		65 or more		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
(Years)											(Number)													
Less than 5					5		10		10	1	9		12		9		5	1	1		1	1	62	3
5- 9							1		1		8		3		2		3	2	1				19	2
10-14							1				4		6		4		5		4		3		27	
15-19											1		2				2		1		1		7	
20-24																	2		1				3	
25-29																								
30-34																								
35+																								
					5		12		11	1	22		23		15		17	3	8		5	1	118	5
																					Total		123	

Table 3.6b
Ontario Public Sector Pension Plan Members, Provincial Legislature Sub-sector, Caucus Employees, by Age and Sex, March 31, 1978

Pension service	Less than 20		20–24		25–29		30–34		35–39		40–44		45–49		50–54		55–59		60–64		65 or more		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
(Years)											(Number)													
Less than 5			4	9	10	33	5	17	3	10		9		7	2	6		6		3		1	24	101
5– 9						3	1	3		4		2		4		2		3		2		3	1	26
10–14														2		1				1				4
15–19																		1						1
20–24																								
25–29																								
30–34																								
35+																								
Total			4	9	10	36	6	20	3	14		11		13	2	9		10		6		4	25	132

Total 157

Table 3A

Ontario Public Sector Pension Plans, Percentage Distribution of Active Membership, Provincial Government Sub-sector, by Age and Length of Service, December 1977

Pension service	Less than 30		30–34		35–39		40–44		45–49		50–54		55–59		60–64		65 and over	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
(Years)	(Per cent)																	
Less than 5	65.9	76.8	31.4	50.0	23.7	41.2	19.6	37.9	18.0	28.5	13.9	22.0	10.9	13.2	7.1	7.0	24.4	27.1
5– 9	31.7	21.5	40.9	35.1	28.9	37.8	24.8	35.4	21.2	35.2	19.7	31.9	18.7	24.5	16.8	20.2	25.9	22.0
10–14	2.4	1.7	26.2	13.4	28.7	14.2	18.9	15.1	17.5	18.5	17.6	21.3	19.8	26.3	23.6	28.0	17.6	28.8
15–19	–	–	1.5	1.5	15.7	5.5	20.8	6.6	16.5	9.8	15.7	14.2	16.6	20.8	20.6	23.1	8.8	13.6
20–24	–	–	–	–	2.9	1.2	14.3	4.3	17.4	4.9	14.0	6.8	13.1	9.4	14.8	13.1	8.8	1.7
25–29	–	–	–	–	–	–	1.4	.6	8.4	2.3	11.4	2.2	9.0	3.2	8.0	4.5	6.2	1.7
30–34	–	–	–	–	–	–	–	–	1.0	.6	7.1	1.4	9.9	1.5	5.7	1.8	2.6	3.4
35+	–	–	–	–	–	–	–	–	–	–	.5	.1	2.3	1.1	3.4	2.4	5.7	1.7
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Table 3B

Ontario Public Sector Pension Plans, Percentage Distribution of Active Membership, by Age and Length of Service, Open Municipal Plans, December 1977

Pension service	Less than 30		30-34		35-39		40-44		45-49		50-54		55-59		60-64		65 and over	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F(a)
(Years)									(Per cent)									
Less than 5	87.6	82.3	57.9	54.5	42.9	55.6	27.6	42.4	20.2	47.8	11.8	35.8	5.1	22.7	3.2	17.6	2.9	
5- 9	12.0	16.5	28.7	21.2	24.1	20.0	25.4	24.2	15.8	23.9	9.5	22.6	5.7	27.3	3.2	11.8	2.9	
10-14	.4	1.2	13.0	21.2	27.7	13.3	26.2	18.2	18.6	8.7	16.7	1.9	9.3	4.5	3.8	41.2	13.2	
15-19	-	-	.5	3.0	4.7	6.7	14.3	3.3	17.9	13.0	15.6	9.4	10.3	13.6	7.2	-	2.9	
20-24	-	-	-	-	.7	4.4	6.3	9.1	19.9	2.2	20.1	15.1	21.3	18.2	16.7	-	17.6	
25-29	-	-	-	-	-	-	.2	3.3	7.1	2.2	20.4	11.3	26.3	9.1	34.0	11.8	27.9	
30-34	-	-	-	-	-	-	-	-	.5	2.2	5.2	3.8	18.2	-	23.7	17.6	23.5	
35+	-	-	-	-	-	-	-	-	-	-	.6	-	3.8	4.5	8.2	-	8.8	
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	

a Numbers too small to calculate.

Table 3C
Ontario Public Sector Pension Plans, Percentage Distribution of Active Membership, Closed Municipal Plans, by Age and Length of Service, December 1977

Pension	Less than 30		30-34		35-39		40-44		45-49		50-54		55-59		60-64		65 and over	
service	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
(Years)									(Per cent)									
Less than 5	-	(a)	-	-	.1	-	-	-	-	-	.1	-	-	-	.2	-	-	-
5- 9	61.2	(a)	5.7	3.5	.3	75.0	-	-	.4	-	-	1.9	.3	-	.5	1.8	-	-
10-14	38.8	-	93.8	93.0	47.6	25.0	28.1	64.3	19.0	55.9	15.2	43.8	12.8	35.1	10.1	27.4	4.5	(a)
15-19	-	-	.5	3.5	49.8	-	42.8	28.6	24.6	30.7	17.2	32.5	18.1	42.0	21.8	33.4	23.9	(a)
20-24	-	-	-	-	2.2	-	28.7	7.1	44.1	11.0	32.1	20.0	34.2	21.6	42.8	31.9	39.8	(a)
25-29	-	-	-	-	-	-	.4	-	12.0	2.4	26.4	1.3	11.0	3.7	8.5	1.8	14.8	(a)
30-34	-	-	-	-	-	-	-	-	-	-	8.8	-	21.9	1.2	11.7	1.8	9.1	(a)
35+	-	-	-	-	-	-	-	-	-	-	.2	.6	1.7	-	4.3	1.8	8.0	-
Total	100	(a)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	(a)

a Numbers too small to calculate.

Table 3D

Ontario Public Sector Pension Plans, Percentage Distribution of Active Membership, Health Sub-sector, by Age and Length of Service, December 1977

Pension service	Less than 30		30-34		35-39		40-44		45-49		50-54		55-59		60-64		65 and over	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
(Years)									(Per cent)									
Less than 5	77.3	80.9	50.7	48.8	37.5	38.9	34.8	36.4	27.3	27.3	28.3	21.0	21.4	14.8	17.6	7.4	11.7	7.3
5- 9	21.7	18.8	37.9	43.1	40.5	43.0	39.7	42.1	36.5	39.8	32.1	37.1	33.4	31.6	30.2	25.4	30.9	19.8
10-14	1.0	.3	10.6	8.0	17.1	14.9	15.2	15.3	19.9	20.8	17.8	24.6	21.2	27.7	24.7	31.4	27.1	30.7
15-19	-	-	.8	.1	4.7	3.1	6.0	4.8	10.3	8.2	10.1	10.7	10.7	14.4	11.4	17.9	16.2	18.8
20-24	-	-	-	-	.2	.1	4.2	1.4	5.2	3.2	10.6	6.3	9.6	10.6	10.7	14.9	3.8	14.6
25-29	-	-	-	-	-	-	.1	(a)	.7	.6	1.2	.2	3.2	.9	5.1	2.9	8.6	7.0
30-34	-	-	-	-	-	-	-	-	-	-	-	.1	.4	.1	.3	.2	1.7	1.8
35+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

a Less than .1 per cent.

Table 3E

Ontario Public Sector Pension Plans, Percentage Distribution of Active Membership, Education Sub-sector, by Age and Length of Service, December 1977

Pension service	Less than 30		30–34		35–39		40–44		45–49		50–54		55–59		60–64		65 and over	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
(Years)									(Per cent)									
Less than 5	68.9	59.5	20.7	29.4	10.2	30.4	7.8	24.2	7.1	17.3	6.5	11.6	6.5	7.8	5.4	3.9	8.9	4.7
5– 9	30.7	39.5	52.1	40.4	25.7	27.6	21.3	28.5	20.3	26.5	18.7	21.9	19.1	16.2	17.8	11.1	30.6	21.3
10–14	.4	1.0	26.7	29.0	40.4	21.5	27.1	18.9	23.6	20.8	20.6	19.8	20.4	19.2	22.8	15.7	23.4	19.7
15–19	–	–	.6	1.2	23.1	19.5	27.9	14.1	17.1	12.7	14.3	13.8	12.3	14.0	12.9	14.8	14.5	15.7
20–24	–	–	–	–	.6	1.0	15.4	13.5	18.8	11.3	12.0	11.8	8.3	12.8	8.4	15.6	5.6	15.7
25–29	–	–	–	–	–	–	.7	.8	12.5	10.5	17.6	10.5	11.4	11.2	7.9	15.1	5.6	4.7
30–34	–	–	–	–	–	–	–	–	.6	.8	9.8	10.0	15.7	11.6	8.9	10.7	3.2	5.5
35+	–	–	–	–	–	–	–	–	–	–	.4	.5	6.2	7.2	15.8	13.1	8.1	12.6
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Table 3F

Ontario Public Sector Pension Plans, Percentage Distribution of Active Membership, Provincial Utilities Sub-sector, by Age and Length of Service, December 1977

Pension service	Less than 30		30-34		35-39		40-44		45-49		50-54		55-59		60-64		65 and over	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M(a)	F(a)
(Years)									(Per cent)									
Less than 5	74.3	72.9	35.1	35.2	27.9	31.0	16.7	20.1	8.1	16.1	5.1	6.1	4.4	5.9	2.8	-		
5- 9	24.4	25.1	44.2	35.0	34.7	28.4	26.6	26.0	15.4	28.1	11.4	20.2	10.4	17.2	7.2	9.2		
10-14	1.3	1.9	19.9	27.9	21.9	18.8	15.9	25.0	9.8	18.0	7.8	20.2	5.8	13.0	7.8	13.8		
15-19	-	-	.7	1.9	12.0	17.0	9.9	9.8	4.7	10.6	4.5	10.5	3.9	11.2	4.6	10.8		
20-24	-	-	-	-	3.6	4.8	26.8	15.7	23.1	11.1	15.3	15.8	15.1	16.6	14.2	16.9		
25-29	-	-	-	-	-	-	4.0	3.4	36.4	13.8	41.4	16.7	37.3	19.5	37.8	24.6		
30-34	-	-	-	-	-	-	-	-	2.5	2.3	12.9	8.8	17.4	11.8	14.9	10.8		
35+	-	-	-	-	-	-	-	-	-	-	1.5	1.8	5.7	4.7	10.6	13.8		
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		

a Numbers too small to calculate.

GROWTH OF PENSION PLAN MEMBERSHIP IN THE ONTARIO PUBLIC SECTOR

Tables 4.1 to 4.5 show the growth in pension plan membership since 1960 in each sub-sector based on the plans which provided such data. The annual percentage change in membership is also given where possible.

It can be seen from these tables that the growth rate in plan membership has declined since the early seventies. The high growth rate of some plans like the Ontario Municipal Retirement System and the Hospitals of Ontario Pension Plan in the late sixties reflect their absorption of many small plans in their respective fields.

Table 4.1
Ontario Public Sector Pension Plans, Active Membership Growth, Provincial Government Sub-sector, 1960-1977

	PSSF	Year to year percentage change	Sub-sector total(a)	Year to year percentage change
1977	76,712	2.2	79,476(b)	2.4
1976	75,065	- .4	77,623	- .3
1975	75,371	1.1	77,849	1.4
1974	74,540	2.5	76,770	2.6
1973	72,748	3.4	74,823	3.4
1972	70,379	2.4	72,339	2.5
1971	68,735	9.3	70,563	9.3
1970	62,888	8.7	64,538	8.5
1965	41,432	7.8	42,904	7.6
1960	28,413		29,768	

a Includes PSSF, WCB, Ontario Milk Marketing Board, Ontario Stock Yards Board, Ontario Educational Communications Authority, and the Royal Ontario Museum.

b Figure does not correspond to that in Table 1, because a different date was used.

Table 4.2

Ontario Public Sector Pension Plans, Active Membership Growth, Municipal Sub-sector, 1960-1977

	OMERS	Year to year percentage change	All municipal open(a)	Year to year percentage change	All municipal closed(b)	Year to year percentage change	Sub-sector total	Year to year percentage change
1977	106,030	3.5	114,475	3.5	10,795	- 5.2	125,270(c)	2.7
1976	102,432	5.3	110,627	5.0	11,393	- 6.0	122,020	3.9
1975	97,275	9.7	105,369	9.3	12,115	- 4.7	117,484	7.6
1974	88,708	5.8	96,425	5.6	12,711	- 8.5	109,136	3.7
1973	83,854	8.5	91,319	8.1	13,888	- 4.7	105,207	6.2
1972	77,258	6.3	84,503	6.1	14,571	- 4.7	99,074	4.4
1971	72,659	11.8	79,637	10.8	15,294	-10.4	94,931	6.7
1970	64,993	22.1	71,904	19.0	17,067	- 3.0	88,971	12.0
1965	23,918		30,131		20,290		50,421	
1960								

a OMERS, TTC, London Transit Commission, Halton, Otanabee, and Hamilton Conservation Authorities.

b Metro Toronto Employees, Metro Toronto Police, Borough of York, Guelph Transportation Commission, Long Point Regional Conservation Authority, Cities of Toronto (civic) and (firemen), North Bay, Oshawa and Ottawa, Town of Tilsonburg, Townships of Tay, Kingston, Rochester, Tuckersmith, London, and Melancthon.

c Figure does not correspond to that in Table 1 because a different date was used.

Table 4.3
Ontario Public Sector Pension Plans, Active Membership Growth, Health Sub-sector, 1960-1977

	HOOPP	Year to year percentage change	Sub-sector total(a)	Year to year percentage change
1977	63,000(E)	5.6	67,271(b)	5.5
1976	59,680	11.6	63,794	11.7
1975	53,474	5.1	57,114	5.3
1974	50,872	3.6	54,256	3.3
1973	49,098	3.6	52,505(E)	3.6
1972	47,409	11.0	50,681	11.2
1971	42,694	10.0	45,588(E)	
1970	38,819	11.0		
1965	23,942	16.9		
1960	10,988			

a HOOPP, Kingston General Hospital, The Hospital for Sick Children, Toronto Western Hospital, and Ontario Cancer Institute.
b Estimate. Also, figure does not correspond to that in Table 1 because a different date was used.

Table 4.4

Ontario Public Sector Pension Plans, Active Membership Growth, Education Sub-sector, 1960-1977

	TSF	Year to year percentage change	Universities(a)	Year to year percentage change	CAAT	Year to year percentage change	Sub-sector total(b)	Year to year percentage change
1977			22,257	2.2	11,931	1.7		
1976	139,138	1.4	21,787	2.9	11,731	3.7	172,707(c)	5.0
1975	137,280	4.2	21,177	- .3	11,307	2.2	164,411	.1
1974	131,808	-5.8	21,237	.6	11,060	9.5	164,180	-4.1
1973	139,971	16.8	21,119	7.3	10,097	21.9	171,264	16.3
1972	119,873	13.5	19,677(d)	5.4	8,282	16.4	147,926(d)	12.5
1971	105,657	13.6	18,664(d)	7.1	7,115	16.5	131,515(d)	12.8
1970	93,000	5.0	17,431(d)		6,107		116,617(d)	
1965	73,006	8.7						
1960	48,011							

a Data for universities include the following plans:
Queen's University, University of Ottawa, York University, Wilfrid Laurier University, King's College, Huron College, Laurentian University, Nipissing University College, McMaster University (contributory), Carleton University, University of Toronto, Algoma University, Waterloo University, Lakehead University, University of Guelph, Brock University, Ryerson Polytechnical Institute, and OISE.

b In addition to TSF, universities and CAAT, this includes 2 boards of education.

c Figure does not correspond to that in Table 1 because a different date was used.

d Carleton University did not provide data for these years.

Table 4.5
Ontario Public Sector Pension Plans, Active Membership Growth, Provincial Utilities Sub-sector, 1960-1977

	Hydro	Year to year percentage change	Sub-sector total(a)	Year to year percentage change
1977	19,555	1.0	21,285	1.0
1976	19,355	6.8	21,084	6.2
1975	18,126	3.8	19,856	2.8
1974	17,461	1.6	19,308	2.1
1973	17,187	.9	18,918	.7
1972	17,032	8.4	18,794	8.2
1971	15,711		17,373	
1970				
1965				
1960				

a Ontario Hydro and Ontario Northland Transportation Commission.

VESTING

Vesting refers to the entitlement of a member upon termination of his or her employment to a pension based on the plan formula in cases of a defined benefit plan. In cases of money-purchase plans, vesting refers to a member's entitlement to the employer's contribution on his or her behalf.

Table 5 classifies the pension plans according to their vesting conditions and shows the number of active members in each plan as of January 1, 1978 or the latest date for which the data are available. Because of lack of precise data on length of service and/or age of membership of many plans, it has not been possible to obtain a reliable estimate of vested members. Moreover because the length of service required for vesting varies from one day to 20 years, it is not considered meaningful to lump together vested members meeting different minimum vesting conditions.

Table 5
Ontario Public Sector Pension Plan Coverage, by Vesting Provisions(a)

	Active membership
Immediate vesting	
Ontario Municipal Employees Retirement System	106,731
Queen's University	1,863
Trent University	438
York University	1,977
Wilfrid Laurier University	397
Laurentian University	376
McMaster University - contributory	1,938
Carleton University	1,278
University of Windsor - faculty	660
- staff	564
University of Waterloo	2,008
Lakehead University - faculty	291
Brock University	455
Huron College	55
University of Western Ontario - academic	1,883
- administration	1,097
1-year vesting	
Hydro Pension Plan	20,478
3-year vesting	
The Ontario Cancer Institute	324
5-year vesting	
Ontario Educational Communications Authority	330
The Hospital for Sick Children	2,402
Algoma University College	35
8-year vesting	
Corporation of St. John's School - Elora	4
10-year vesting	
Public Service Superannuation Fund	76,712
Workmen's Compensation Board	2,264
City of Ottawa	1,013
Ottawa-Carleton Regional Transit Commission	1,468
Hospitals of Ontario Pension Plan	63,645
Kitchener-Waterloo Hospital	1,058
Toronto Western Hospital	1,252

Table 5 (concluded)
Ontario Public Sector Pension Plan Coverage, by Vesting Provisions(a)

10-year vesting (continued)	Active membership
Kingston General Hospital	9
Ryerson Polytechnical Institute	934
Ontario Institute for Studies in Education	435
University of Guelph Retirement Plan	749
- faculty	944
- staff	593
Teachers' Superannuation Fund	114,563
Colleges of Applied Arts and Technology	11,720
University of Toronto - ancillary staff plan	86
Ontario Northland Transportation Commission	1,622
15-year vesting	
Metroplitan Toronto Police	2,185
20 years' service or age 45 with 10 years	
Ontario Stock Yards Board	63
5 years' service and age 40	
University of Ottawa	1,742
Ontario Pension Benefits Act Requirements - 10 years' service and age 45	
Metropolitan Toronto Employees	3,813
City of Toronto - civic employees	2,282
City of Toronto - firemen	1,002
Borough of York Board of Education	427
Nipissing University College	28
Toronto Transit Commission	8,048
University of Toronto	5,452
Gradual vesting (range specified)	
Metropolitan Toronto Association for the Mentally Retarded (1 year 10 per cent - 10 years 100 per cent)	117
London Transit Authority (5 years 50 per cent - 10 years 100 per cent)	339
Lakehead University Staff (immediate 50 per cent - 10 years 100 per cent)	225
McMaster University - non-contributory (10 years 50 per cent 15 years 100 per cent)	277

a Information on the plans not listed above is not available. Smaller plans were not examined closely for the above purpose.

PENSION RECIPIENTS

Pension recipients or pensioners fall into three categories:

1. retirees (whether or not retired from public service),

2. survivors, and

3. disabled members.

Table 6 provides the distribution by age, sex, and year of retirement of pensioners from all the plans in the Ontario public sector.

Tables 6.1, 6.2a, 6.2b, 6.3, 6.4a, 6.4b, 6.5, and 6.6 give this distribution for pensioners in each sub-sector in the Ontario public sector.

It was not possible to separate the pensioner data by retirees, survivors, and disabled members because the plan sponsors were unable to provide or specify the figures for each category.

Table 6
Ontario Public Sector Pensioners (Retired, Disabled, and Survivors), all Sub-sectors, by Age, Sex, and Year of Retirement, December 1977

Year of retirement	Less than 55		56-60		61-65		66-70		71-75		76-80		81 or more		No age/sex breakdown	Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F		
1965 or earlier	8	42	3	93	49	292	111	626	356	1,334	794	1,808	870	1,821	1,289	9,496
1966-1970	26	222	76	233	226	840	799	1,947	1,831	2,430	508	619	29	129	1,553	11,468
1971	23	77	39	118	159	332	585	827	263	261	13	38	3	10	322	3,070
1972	50	93	74	184	403	659	765	929	173	134	13	13	4	12	288	3,794
1973	75	131	133	254	525	648	784	741	76	45	4	16	2	8	357	3,799
1974	100	140	163	318	466	557	730	538	39	26	9	8	5	16	364	3,479
1975	88	175	181	351	468	490	724	489	35	30	7	8	7	5	347	3,405
1976	115	221	330	329	977	766	375	229	26	33	5	16	3	7	482	3,914
1977	59	6	80	13	237	87	140	35	1	3	-	-	-	1	2,902	3,564
Total	544	1,107	1,079	1,893	3,510	4,671	5,013	6,361	2,800	4,296	1,353	2,526	923	2,009	7,904	45,989
No retirement year breakdown	12	4	14	6	64	13	222	71	124	33	47	11	26	1		648
No age or retirement year breakdown																27,896
Total																74,533(a)

a Pensioners as percentage of active members: 16.4.

Table 6.1
Ontario Public Sector Pensioners (Retired, Disabled, and Survivors), Provincial Government Sub-sector, by Age, Sex, and Year of Retirement, December 1977

Year of retirement	Less than 55		56-60		61-65		66-70		71-75		76-80		81 or more		Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
1965 and earlier	2	29	1	72	35	181	40	319	150	475	389	626	371	644	3,334
1966-1970	13	156	57	175	102	332	345	487	1,145	750	274	217	3	18	4,074
1971	11	55	27	56	76	105	359	237	77	57	1	3	1		1,065
1972	32	65	39	65	165	133	403	282	36	29	3	1			1,253
1973	52	84	72	96	219	168	468	256	17	17		2		1	1,452
1974	54	92	83	87	207	150	426	200	7	4	2		1	1	1,314
1975	33	113	82	96	197	114	449	205	5	3					1,297
1976	38	103	191	132	680	323	108	59	2	8		1			1,645
1977	1	4		3	15	6	5	5		1				1	41
Total	236	701	552	782	1,696	1,512	2,603	2,050	1,439	1,344	669	850	376	665	15,475
No breakdown: 1977 net increase in PSSF															1,303
: others															2
Total															16,780(a)

a Pensioners as percentage of active members: 21.0.

Table 6.2a

Ontario Public Sector Pensioners (Retired, Disabled, and Survivors), Closed Municipal Plans, by Age, Sex, and Year of Retirement, December 1977

Year of retirement	Less than 55		56-60		61-65		66-70		71-75		76-80		81 or more		Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
1965 and earlier	3		2		4		11		38		67	1	70	2	712(a)
1966-1970	3		7		13	1	12	1	44	4	16	3	3		384(a)
1971	3		2		4		12	2	45	7	6		1		82
1972	5		5		2		38	11	19		3				83
1973	9		6		13	4	44	13	18	2	1		1		111
1974	28		10		21	7	58	9	10				1		144
1975	25		9		22	11	59	17	5						148
1976	31		17		26	5	76	2	7	1					165
1977	34		24	7	61	20	25			1					172
Total	141		82	7	166	48	335	55	186	15	93	4	76	2	2,001(a)
Plans with no retirement year breakdown	12	1	12		61	2	91	7	56	7	26	8	24	1	308
													Sub total		2,309
													No breakdown		3,431
													Total		5,740(b)

a Includes pensioners for which no breakdown has been supplied prior to and including 1970.
b Pensioners as percentage of active members: 47.2.

Table 6.2b

Ontario Public Sector Pensioners (Retired, Disabled, and Survivors), Open Municipal Plans, by Age, Sex, and Year of Retirement, December 1977

Year of retirement	Less than 55		56-60		61-65		66-70		71-75		76-80		81 or more		Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
1965 and earlier									1	1	53	8	141	4	208
1966-1970	1		2		3		16	6	136	11	105		11		291
1971	2		1		2	1	28	2	54	5	5				100
1972			2		2	1	52	4	20	1					82
1973	1		1		4	3	59	4	13						85
1974	1		3		43	2	89	3	9						150
1975	1		8		66	2	72	2	7						158
1976	3	1	15		42	1	43		6						111
1977	21	2	47	1	91	1	45								208
Total	30	3	79	1	253	11	404	21	246	18	163	8	152	4	1,393
											Sub total				1,393
											OMERS(a)				13,160
											No breakdown - others				194
											Total				14,747(b)

a No breakdown as above for OMERS.

b Pensioners as percentage of active members: 12.6.

Year of retirement	Less than 55 M	Less than 55 F	56-60 M	56-60 F	61-65 M	61-65 F	66-70 M	66-70 F	71-75 M	71-75 F	76-80 M	76-80 F	81 or more M	81 or more F	Total
1965 and earlier				1		6	22	29							58
1966-1970				1	5	15	25	59							105
1971					4	16	4	8							32
1972				1	1	17	9	11							39
1973				1	2	16	5	13							37
1974					4	28	7	10							49
1975		1		3	3	21	5	10							43
1976				3	5	25	2	8							43
1977					7	23	2	7							39
Total		1		10	31	167	81	155							445
											Sub total				445
											No breakdown:		HOOPP		9,750
											:		others		183
											Total				10,378(a)

a Pensioners as percentage of active members: 15.0.

Table 6.4

Ontario Public Sector Pensioners (Retired, Disabled, and Survivors), Total Education Sub-sector, by Age, Sex, and Year of Retirement, December 1977

Year of retirement	Less than 55		56-60		61-65		66-70		71-75		76-80		81 or more		Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
1965 and earlier	3	13		20	10	105	38	278	165	858	283	1,173	285	1,171	4,402
1966-1970	9	66	10	57	103	492	399	1,394	504	1,665	113	399	11	111	5,333
1971	7	22	8	62	65	210	181	578	86	192	1	34	1	10	1,457
1972	12	28	26	118	233	508	262	621	98	104	7	12	4	12	2,045
1973	13	47	53	157	287	457	205	455	25	26	3	14	1	7	1,750
1974	16	48	65	231	191	370	150	316	13	22	7	8	3	15	1,455
1975	21	61	76	252	173	342	137	255	15	27	7	8	6	5	1,385
1976	43	117	106	194	224	412	146	160	11	24	5	15	3	7	1,467
1977	1		7	2	61	37	60	23		1					192
Total	125	402	351	1,093	1,347	2,933	1,578	4,080	917	2,919	426	1,663	314	1,338	19,486
Plans with no retirement year breakdown		3	2	6	3	11	131	64	68	26	21	3	2		340
Sub total															19,826
No breakdown includes TSF net increase 1977															1,949
Total															21,775(a)

a Pensioners as percentage of active members: 14.1.

Table 6.4a

Ontario Public Sector Pensioners (Retired, Disabled, and Survivors), Education Sub-sector, Teachers and Colleges, by Age, Sex, and Year of Retirement, December 1977

Year of retirement	Less than 55		56-60		61-65		66-70		71-75		76-80		81 or more		Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Teachers' Superannuation Fund															
1965 and earlier	3	13	0	20	10	105	37	277	161	853	275	1,146	222	1,123	4,245
1966-1970	9	66	6	57	63	478	376	1,376	431	1,625	28	357	6	106	4,984
1971	5	22	8	62	50	204	178	577	35	169	1	33	1	10	1,355
1972	12	28	25	117	216	499	244	612	18	67	7	12	4	12	1,873
1973	13	47	51	157	265	448	149	425	6	21	3	14		7	1,606
1974	16	48	65	230	159	357	88	279	4	20	7	8	3	15	1,299
1975	20	61	71	247	140	326	69	211	11	23	7	8	6	5	1,205
1976	42	117	101	188	193	392	36	91	10	21	5	14	3	7	1,220
1977(a)															
Total	120	402	327	1,078	1,096	2,809	1,177	3,848	676	2,799	333	1,592	245	1,285	17,787
CAAT		2		3	2	7	86	43	44	19	10	2	2		220
Ryerson		1	1	3		1	14	3	11	3	7	1			45
											Sub total				18,052
											TSF net increase 1977				1,182
											Total				19,234

a Not available.

Table 6.4b
Ontario Public Sector Pensioners (Retired, Disabled, and Survivors), Education Sub-sector, Universities, by Age, Sex, and Year of Retirement, December 1977

Year of retirement	Less than 55		56-60		61-65		66-70		71-75		76-80		81 or more		Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
1965 and earlier								1	4	5	8	27	63	48	156
1966-1970			4		39	14	21	18	68	39	85	42	5	5	340
1971	2				15	6	3	1	49	23		1			100
1972			1	1	17	8	15	9	80	37					168
1973				1	20	9	55	30	19	5			1		140
1974				1	31	13	57	37	9	2					150
1975	1		5	5	33	16	62	40	4	4					170
1976	1		5	5	29	19	102	67	1	3		1			233
1977	1		7	2	56	35	60	23		1					185
Total	5		22	15	240	120	375	226	234	119	93	71	69	53	1,642
Plans with no retirement year breakdown			1		1	3	31	18	13	4	4				75
												Sub total			1,717
												No breakdown			633
												Total			2,350

Table 6.5
Ontario Public Sector Pensioners (Retired, Disabled, and Survivors), Provincial Utilities Sub-sector, by Year of Retirement, December 1977(a)

	Ontario Northland Transportation Commission	Hydro Pension Plan	Total
1965 and earlier	163	612	775
1966-1970	107	1,169	1,276
1971	32	290	322
1972	32	256	288
1973	31	326	357
1974	41	323	364
1975	36	311	347
1976	38	444	482
1977	31	386	417
Total	511	4,117	4,628
		+ ONTC survivor's	409
		Total	5,037(b)

a Totals only - no breakdown available.
b Pensioners as percentage of active members: 22.8.

Table 6.6
Ontario Public Sector Pensioners (Retired, Disabled, and Survivors), Provincial Legislature Sub-sector(a), Legislative Assembly Members, by Age, Sex, and Year of Retirement, December 1977

Year of retirement	Less than 55		56-60		61-65		66-70		71-75		76-80		81 or more		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	Total
1965 and earlier									2		2		3		7
1966-1970							2		2				1		5
1971			1		8		1		1			1			12
1972	1		2				1								4
1973			1				3		3						7
1974	1		2												3
1975	8		6		7		2		3				1		27
1976			1												1
1977	2		2		2		3		1						10
Total	12		15		17		12		12		2	1	5		76(b)

a The Caucus Employees Retirement Plan was started in 1978 and has no pensioners.
b Pensioners as percentage of active members: 61.8.

GROWTH OF PENSIONERS

Tables 7.1 to 7.5 provide the growth in number of pensioners and the dollar value of pensions paid since 1960 to the pensioners from various plans in each sub-sector in the Ontario public sector.

The pension amounts given in this section include all pension payments channelled through the pension plans, but do not include any payments made to pensioners out of other monies of the employer, and not reported to the study.

Table 7.1

Ontario Public Sector, Total Payments to Pensioners (Retired, Disabled, and Survivors), Provincial Government Sub-sector, 1960-1977

	Public Service Superannuation Fund		Workmen's Compensation Board		Ontario Stock Yards		Royal Ontario Museum		Ontario Educational Communications Authority	
	(Number)	(Dollars)	(Number)	(Dollars)	(Number)	(Dollars)	(Number)	(Dollars)	(Number)	(Dollars)
1977	16,376	65,484,000	365	1,420,160	24	41,000	13	4,633	3	4,815
1976	15,284	54,863,000	337	1,087,110	25	30,000	14	4,177	3	3,817
1975	14,084	45,107,000	301	1,152,060	24	28,000	14	4,177	1	1,688
1974	12,972	38,926,000	268	835,410	25	27,000	14	4,177	N/A	
1973	11,835	32,062,000	N/A		26	28,000	13	3,462	N/A	
1972	10,706	26,998,000	N/A		25	29,000	11	2,315	N/A	
1971	9,506	24,010,000	N/A		22	27,000	10	1,938	N/A	
1970	8,607	20,507,000	N/A		21	25,000	10	1,938	N/A	
1965	5,053	9,168,000	N/A		8	13,000	N/A		N/A	
1960	3,085	4,426,000	N/A		1	1,000	N/A		N/A	

Note Most plans were unable to separate retired employees from the total number of pensioners.

Table 7.2a
Ontario Public Sector, Total Payments to Pensioners (Retired, Disabled, and Survivors), Open Municipal Plans, 1960-1977

	Ontario Municipal Employees Retirement System		Toronto Transit Commission		London Transit Commission	
	(Number)	(Dollars)(a)	(Number)	(Dollars)	(Number)	(Dollars)
1977	13,160	16,660,000	1,422	N/A	47	73,000
1976	11,471	12,867,000	1,264	5,160,000	42	62,000
1975	9,821	8,983,000	1,219	4,485,000	37	51,000
1974	8,394	6,644,000	1,101	3,728,000	32	44,000
1973	6,908	4,612,000	1,009	2,953,000	27	35,000
1972	5,663	3,195,000	995	2,706,000	24	30,000
1971	4,592	2,117,000	968	2,463,000	20	21,000
1970	3,444	1,276,000	914	2,121,000	15	9,000
1965	358(a)	76,000	N/A	1,403,000	5	2,000
1960	N/A		N/A	1,070,000	2	1,000

Note Most plans were unable to separate retired employees from the total number of pensioners.

a These figures obtained from the Ontario Ministry of Treasury, Economics and Intergovernmental Affairs and annual reports.

Table 7.2b
Ontario Public Sector, Total Payments to Pensioners (Retired, Disabled, and Survivors), Closed Municipal Plans, 1960-1977

	Mimico Pension Plan		New Toronto Pension Plan		City of Ottawa Superannuation Fund		Otanabee Region Conservation Authority		Metro Toronto and Region Conservation Authority	
	(Number)	(Dollars)	(Number)	(Dollars)	(Number)	(Dollars)	(Number)	(Dollars)	(Number)	(Dollars)
1977	N/A		N/A		585	1,377,800	1	171	12	7,400
1976	18	53,810	21	60,975	N/A		1	171	10	7,000
1975	N/A		N/A		N/A		1	171	8	5,600
1974	N/A		N/A		N/A		1	171	6	3,500
1973	N/A		N/A		N/A		1	171	5	2,900
1972	N/A		N/A		N/A		1	171	3	2,000
1971	N/A		N/A		N/A		N/A		3	2,000
1970	N/A		N/A		N/A		N/A		3	500
1965	N/A		N/A		N/A		N/A		N/A	
1960	N/A		N/A		N/A		N/A		N/A	

Note Most plans were unable to separate retired employees from the total number of pensioners.

Table 7.2b (concluded)
Ontario Public Sector, Total Payments to Pensioners (Retired, Disabled, and Survivors), Closed Municipal Plans, 1960-1977

	Metro Toronto Pension Plan		Metro Toronto Police Benefit Fund		Toronto Civic Employees' Pension Plan		Toronto Fire Department Superannuation and Benefit Fund		York Borough Employees' Pension and Benefit Fund	
	(Number)	(Dollars)	(Number)	(Dollars)	(Number)	(Dollars)	(Number)	(Dollars)	(Number)	(Dollars)
1977	1,308	2,784,953	801	3,921,444	1,687	5,202,000	489	1,876,000	147	548,000
1976	1,131	2,075,771	796	3,611,008	1,479	4,521,000	468	1,628,000	159	517,000
1975	1,061	1,666,831	726	3,024,670	1,354	3,541,000	448	1,276,000	147	479,000
1974	989	1,370,428	530	1,938,047	1,280	5,115,000	444	1,160,000	111	354,000
1973	895	894,868	484	1,529,838	1,198	2,706,000	395	1,142,000	106	314,000
1972	778	771,455	459	1,379,240	1,084	2,188,000	244	768,000	107	237,000
1971	722	669,228	474	1,556,809	1,018	2,086,000	289	729,000	N/A	331,000
1970	N/A		452	1,274,513	865	1,306,000	276	668,000	96	208,000
1965	N/A		479	925,853	840	1,146,000	251	475,000	N/A	
1960	N/A		505	806,206	710	970,000	204	334,000	N/A	

Note Most plans were unable to separate retired employees from the total number of pensioners.

Table 7.3
Ontario Public Sector, Total Payments to Pensioners (Retired, Disabled, and Survivors), Health Sub-sector, 1960-1977

	Hospitals of Ontario Pension Plan		Kitchener-Waterloo Hospital		Hospital for Sick Children		Toronto Western Hospital		Ontario Cancer Institute	
	(Number)	(Dollars)	(Number)	(Dollars)	(Number)	(Dollars)	(Number)	(Dollars)	(Number)	(Dollars)
1977	9,750	9,182,000	123	110,933	322	616,000	131	125,276	52	87,082
1976	8,507	7,409,000	N/A	112,528	N/A		109	93,306	N/A	
1975	7,922	6,518,000	N/A	81,287	N/A		108	90,684	N/A	
1974	7,273	5,010,000	N/A	63,263	N/A		N/A		N/A	
1973	6,441	4,099,000	N/A	43,968	N/A		N/A		N/A	
1972	5,607	3,330,000	N/A	36,668	N/A		N/A		N/A	
1971	4,799	2,687,000	N/A	30,998	N/A		N/A		N/A	
1970	4,076	2,130,000	N/A	26,051	N/A		N/A		N/A	
1965	1,617	698,000	N/A		N/A		N/A		N/A	
1960	198	46,000	N/A		N/A		N/A			

Note Most plans were unable to separate retired employees from the total number of pensioners.

Table 7.4
Ontario Public Sector, Total Payments to Pensioners (Retired, Disabled, and Survivors), Education Sub-sector, 1960-1977

	Teachers' Superannuation Fund		Borough of York Board of Education		Perth County Board of Education		Trent University		University of Ottawa Retirement Pension Plan	
	(Number)	(Dollars)	(Number)	(Dollars)	(Number)	(Dollars)	(Number)	(Dollars)	(Number)	(Dollars)
1977	18,969	116,458,000	46	20,000	N/A	8,315	19	36,763	97	145,000
1976	17,924	101,618,000	40	17,000	N/A	5,421	N/A		77	134,000
1975	17,113	102,077,000	28	14,000	N/A	3,872	N/A		62	94,000
1974	16,257	75,145,000	19	9,000	N/A	3,638	N/A		52	80,500
1973	15,245	62,762,000	14	7,000	N/A	3,118	N/A		41	58,000
1972	13,792	51,413,000	11	6,000	N/A	1,402	N/A		22	25,000
1971	12,217	43,937,000	8	4,000	N/A	1,402	N/A		14	17,500
1970	11,111	35,259,000	6	3,000	N/A	1,402	N/A		7	10,500
1965	7,002	15,787,000	N/A		N/A	262	N/A		N/A	
1960	4,836	8,395,000	N/A		N/A		N/A		N/A	

Note Most plans were unable to separate retired employees from the total number of pensioners.

Table 7.4 (continued)
Ontario Public Sector, Total Payments to Pensioners (Retired, Disabled, and Survivors), Education Sub-sector, 1960-1977

	York University		Wilfrid Laurier Staff Plan		University of Western Ontario Academic Plan		University of Western Ontario Administrative Plan		University of Toronto	
	(Number)	(Dollars)	(Number)	(Dollars)	(Number)	(Dollars)	(Number)	(Dollars)	(Number)	(Dollars)
1977	80	97,000	17	39,000	59	N/A	201	N/A	903	3,007,000
1976	62	68,000	12	27,000	51	N/A	144	N/A	850	2,473,000
1975	52	53,000	7	21,000	45	N/A	116	N/A	777	1,845,000
1974	43	38,000	4	14,000	42	N/A	98	N/A	729	1,867,000
1973	28	22,000	N/A		37	N/A	85	N/A	N/A	
1972	19	12,000	N/A		31	N/A	72	N/A	646	1,705,000
1971	10	6,000	N/A		28	N/A	60	N/A	N/A	
1970	8	5,000	N/A		25	N/A	49	N/A	405	818,000
1965	0	0	N/A		10	N/A	21	N/A	265	578,000
1960	0	0	N/A		5	N/A	10	N/A	N/A	

Note Most plans were unable to separate retired employees from the total number of pensioners.

Table 7.4 (continued)
Ontario Public Sector, Total Payments to Pensioners (Retired, Disabled, and Survivors), Education Sub-sector, 1960-1977

	University of Waterloo		University of Guelph Retirement Plan		University of Guelph Professional Plan		University of Guelph Non-professional Plan		Brock University	
	(Number)	(Dollars)	(Number)	(Dollars)	(Number)	(Dollars)	(Number)	(Dollars)	(Number)	(Dollars)
1977	177	208,200	219	451,000	61	396,000	33	11,000	19	35,800
1976	162	158,000	201	417,000	50	282,000	29	8,000	14	29,000
1975	124	114,000	181	366,000	42	219,000	27	6,000	13	24,800
1974	103	82,000	155	335,000	32	126,000	24	5,000	12	13,500
1973	77	61,000	137	295,000	9	53,000	22	4,000	10	7,000
1972	55	38,000	116	262,000	6	18,000	21	2,000	7	5,000
1971	34	24,000	97	223,000	2	11,000	17	1,000	N/A	
1970	20	10,000	(		N/A		(	N/A	N/A	
1965	N/A		(79	151,000	N/A		(9	N/A	N/A	
1960	N/A		(		N/A		(4	N/A	N/A	

Note Most plans were unable to separate retired employees from the total number of pensioners.

Table 7.4 (concluded)
Ontario Public Sector, Total Payments to Pensioners (Retired, Disabled, and Survivors), Education Sub-sector, 1960-1977

	Ryerson Polytechnical Institute		Colleges of Applied Arts and Technology	
	(Number)	(Dollars)	(Number)	(Dollars)
1977	45	76,053	N/A	
1976	41	61,903	220	260,017
1975	N/A		150	152,492
1974	N/A		N/A	
1973	N/A		N/A	
1972	N/A		N/A	
1971	N/A		N/A	
1970	N/A		N/A	
1965	N/A		N/A	
1960	N/A		N/A	

Note Most plans were unable to separate retired employees from the total number of pensioners.

Table 7.5
Ontario Public Sector, Total Payments to Pensioners (Retired, Disabled, and Survivors), Provincial Utilities Sub-sector, 1960-1977

	Ontario Hydro		Ontario Northland Transportation Commission	
	(Number)	(Dollars)	(Number)	(Dollars)
1977	4,172	20,568,000	930	3,044,000
1976	3,969	16,608,000	901	2,732,000
1975	3,693	13,829,000	884	2,443,000
1974	3,555	12,736,000	862	2,225,000
1973	3,350	10,661,000	839	2,036,000
1972	3,094(a)	8,645,000(a)	826	1,757,000
1971	2,921(a)	7,742,000(a)	807	1,779,000
1970	2,704(a)	6,237,000(a)	795	1,386,000
1965	N/A	3,592,000(a)	709	1,071,000
1960	N/A		590	708,000

Note Most plans were unable to separate retired employees from the total number of pensioners.
a These figures obtained from the Ontario Ministry of Treasury, Economics and Intergovernmental Affairs.

Table 7.6
Ontario Public Sector, Total Payments to Pensioners (Retired, Disabled, and Survivors), Provincial Legislature Sub-sector, 1960-1977

	Legislative Assembly Retirement Plan	
	(Number)	(Dollars)
1977	76	673,800
1976	69	561,200

EMPLOYERS' PENSION COSTS

The costs referred to in this section are the year to year financial costs incurred by the employer to maintain the funding status of the plans.

Tables 8.1 to 8.5 provide the employer's costs from 1971 to 1977 for the various pension plans in each sub-sector. These costs include:

1. employer's current service costs;

2. employer's payments to liquidate actuarial deficiencies;

3. employer's payments to provide escalation of post-retirement pensions where reported to the study.

These costs do not include:

4. employer's contributions to the CPP;

5. employer's costs for administration of pension plans and escalation of post-retirement pensions which were not channelled through the pension fund.

The costs are given as a percentage of covered payroll so that cost comparison can be made across plans. A large number of plan sponsors supplied the dollar value of pension costs without providing data on the covered payroll. In such cases only those plans for which reliable cost estimates could be made were included in Tables 8.1 to 8.5.

Tables 8.6 to 8.10 give the annual employer's payments to pension plans to amortize actuarial deficiencies. These can vary substantially depending on the methods of funding and accounting of pension plan costs by the plan sponsors, and can only be compared in the context of total costs.

Covered or pensionable payroll refers to employer's payroll that is subject to pensions.

Table 8.1
Ontario Public Sector, Employer's Payments into Pension Plans, as a Percentage of Pensionable Payroll, Provincial Government and Agencies, 1971-1977(a)

	PSSF (inc. SABA)	Workmen's Compensation Board	Ontario Milk Marketing Board	Ontario Stock Yards Board	Ontario Educational Communications Authority
1977	9.94	9.05	.50	3.60	5.63
1976	9.60	13.90	1.20	3.70	N/A
1975	9.40	14.87	.80	4.50	6.12
1974	7.90	11.88	1.10	5.10	N/A
1973	8.20	11.20	1.20	6.70	10.37
1972	8.38	12.07	1.30	4.30	N/A
1971	9.24	9.64	1.30	5.00	10.19
Escalation costs included	Yes	Yes	No pension adjustments were made	No pension adjustments were made	Yes

a Ontario Research Foundation has not provided any data. Some plans provided some costs on a fiscal year basis and other costs on a calendar year basis. The above percentages represent an estimation on calendar year basis.

Table 8.2
Ontario Public Sector, Employer's Payments into Pension Plan, as a Percentage of Pensionable Payroll, Municipal Sub-sector, 1971-1977(a)

	OMERS	Ottawa/Carleton Reg. Transp. Commission	Metro Toronto employees	Metro Toronto police	City of Toronto (civic)	City of Toronto (firefighters)	Borough of York employees	City of Ottawa
1977	Please		10.62	7.26	26.48	21.60	11.2	9.35
1976		.7	5.58	7.55	21.51	21.05	11.1	8.80
1975	see	N/A	5.31	7.57	22.14	22.48	10.9	8.95
1974		N/A	5.33	7.63	10.23	11.66	10.5	8.72
1973	over	N/A	5.41	7.69	10.26	11.22	12.0	8.35
1972		N/A	5.45	7.71	9.04	9.37	12.0	9.94
1971		N/A	5.44	7.76	9.13	9.50	N/A	9.82
Escalation costs included	Yes		Yes	Yes	Yes	Yes	No	No

a Of the open plans, TTC, London Transit Authority, and Mental Retardation Associations did not provide the cost data. Of the closed plans with 300 or more members only Hamilton-Wentworth Regional Municipality plan did not provide the cost data. None of the closed small plans provided cost data.

Table 8.2 (concluded)
Ontario Public Sector, Employer's Payments into Pension Plan, as a Percentage of Pensionable Payroll, Municipal Sub-sector - 1971-1977

OMERS covers 1,006 municipal bodies. Different costs apply to each establishment based upon the amount of past service costs which the employer has agreed to pay, whether or not his employees belong to a supplementary plan, and upon the amount of subsidy he pays to supplementary plans. Administrators of OMERS were therefore not able to provide annual costs as a percentage of pensionable payroll, but they hope to be able to do so early in 1979.

In general, employer current service costs are as follows:

	1963-1977	1978
Basic plan - updated career average	4 per cent to YMPE 5.5 per cent above YMPE	
Additional for firemen and policemen who retire at 60	1 per cent	
Basic plan - final best 5 years		5.5 per cent to YMPE 7 per cent above YMPE
Additional for firemen and policemen who retire at 60		1 per cent
Supplementary plans	1969-1977	1978
Early retirement on unreduced pensions:		
1. Age 55 + 30 years of service	Up to 2 per cent	Up to 2 per cent
2. Age 50 + 30 years of service for firemen and policemen	Up to 2 per cent	Up to 2 per cent

The amount of employer subsidy to supplementary plans is negotiable.

Past service costs

In addition to the percentages shown above, employers are paying the past service costs required to provide for all years of service to be based on the updated career average or final average salary, depending on the year of retirement.

Table 8.3

Ontario Public Sector, Employer's Payments into Pension Plan, as a Percentage of Pensionable Payroll, Health Sub-sector, 1971-1977

	HOOPP	Kitchener-Waterloo General Hospital	Kingston General Hospital (part-time)	Hospital for Sick Children	Toronto Western Hospital	Ontario Cancer Institute
1977	7.69	7.69(E)	5.75	7.94(E)	N/A	8.74
1976	6.90	6.90(E)	5.75	7.94(E)	N/A	8.60
1975	7.19	7.19(E)	12.76	7.90(E)	7.67(E)	7.84
1974	6.49(E)	6.49(E)	7.19	7.71(E)	N/A	7.29
1973	6.67	5.92(E)	5.77	6.40(E)	N/A	8.28
1972	6.40(E)	5.67(E)	5.80	6.42(E)	N/A	8.43
1971	6.17	5.48(E)	5.81	N/A	N/A	8.65
Escalation costs included	No pension adjustments were made	No pension adjustments were made	No pension adjustments were made	Yes	No pension adjustments were made	No pension adjustments were made

E - Estimated by the study.

Table 8.4
Ontario Public Sector, Employer's Payments into Pension Plan, as a Percentage of Pensionable Payroll, Education Sub-sector, 1971-1977(a)

	Teachers' Superannuation Fund	Colleges of Applied Arts and Technology	University of Toronto	University of Waterloo	University of Western Ontario (academic plan)	York University	University of Ottawa	Queen's University	McMaster University (contributory plan)
1977	13.75(E)	5.14(E)	9.49	6.74(E)	7.97	7.06	8.83(E)	6.70(E)	9.91
1976	10.84(E)	5.19(E)	9.28	7.23	8.10	7.03	9.67	6.70(E)	9.77
1975	15.74(E)	5.17(E)	9.71	6.50(E)	10.65	7.03	9.67(E)	6.70(E)	9.70
1974	14.80(E)	5.45(E)	9.89	6.29	N/A	7.04	7.41	6.70(E)	9.66
1973	7.61(E)	N/A	N/A	N/A	N/A	7.04	N/A	6.70(E)	N/A
1972	8.65(E)	5.97(E)	10.24	N/A	N/A	7.03	N/A	N/A	N/A
1971	8.64(E)	6.00	N/A	N/A	N/A	6.48	N/A	N/A	N/A
Escalation costs included	Yes	No pension adjustments were made	No pension adjustments were made	Yes	Yes	Yes	Yes	Yes	Yes

E - Estimated by the study.

a Universities not shown on this list have not provided cost data. Some plans provided some costs on a fiscal year basis and other costs on a calendar year basis. The above percentages represent an estimation on calendar year basis.

Table 8.4 (concluded)
Ontario Public Sector, Employer's Payments into Pension Plan, as a Percentage of Pensionable Payroll, Education Sub-sector, 1971-1977(a)

	Carleton University	University of Western Ontario (admin. plan)	Ryerson Polytechnical Institute(b)	University of Guelph Professional Plan	University of Guelph Retirement Plan	University of Guelph Non-professional Plan	Wilfrid Laurier University
1977	7.67	8.78	5.87	10.27	7.40	3.46	5.73
1976	7.67	8.83	5.77(E)	9.78	7.82	3.45	5.36
1975	7.67	11.06	N/A	9.23	8.65	2.76	4.33
1974	7.67	N/A	4.98	7.50	6.60	2.63	2.94
1973	7.67	N/A	N/A	7.25	6.69	2.59	3.18
1972	N/A	N/A	N/A	8.68	10.43	2.60	3.15
1971	N/A	N/A	N/A	4.04	7.39	2.25	3.09
Escalation costs included	Yes	Yes	Yes	Yes	Yes	Yes	Yes

E - Estimated by the study.

a Universities not shown on this list have not provided cost data. Some plans provided some costs on a fiscal year basis and other costs on a calendar year basis. The above percentages represent an estimation on calendar year basis.

b Ryerson Polytechnical Institute's pension plan was designated under the Superannuation Adjustment Benefits Act in September 1977, and the employer and the employees started contributing 1 per cent each to the adjustment fund. The 1977 costs for the pension plan were estimated by the study.

Table 8.5
Ontario Public Sector, Employer's Payments into Pension Plan, as a Percentage of Pensionable Payroll, Provincial Utilities Sub-sector, 1971-1977

	Ontario Hydro Pension Plan	Ontario Northland Transportation Commission
1977	15.48(E)	20.23
1976	14.38	20.46
1975	11.96(E)	16.00
1974	12.18(E)	21.72
1973	12.89	15.40
1972	N/A	12.32
1971	14.23	11.45
Escalation costs included	Yes	Yes

E - Estimated by the study on the basis of the actuarial reports and other data.

Table 8.6
Ontario Public Sector, Employer Costs to Liquidate Actuarial Deficiencies, as a Percentage of Pensionable Payroll, Provincial Government Sub-sector, 1971-1977

	PSSF	Workmen's Compensation Board	Ontario Milk Marketing Board	Ontario Stock Yards Board	Ontario Educational Communications Authority
1977	2.4	.00	0	.7	.46
1976	2.2	4.65	0	.8	N/A
1975	3.1	5.56	0	.9	.82
1974	1.9	2.64	0	1.2	N/A
1973	2.4	1.78	0	2.8	1.47
1972	2.6	1.97	0	.9	N/A
1971	3.4	.00	0	1.0	1.74

Table 8.7

Ontario Public Sector, Employer Costs to Liquidate Actuarial Deficiencies, as a Percentage of Pensionable Payroll, Municipal Sub-sector, 1971-1977

	OMERS	Metro Toronto employees	Metro Toronto police	City of Toronto (civic)	City of Toronto (firefighters)	Borough of York employees	City of Ottawa
1977	0	5.62	.20	19.48	14.10	4.99	2.03
1976	0	.58	.54	14.51	13.55	5.64	1.90
1975	0	.31	.56	15.14	14.98	5.21	1.29
1974	0	.33	.63	3.63	4.55	5.18	1.56
1973	0	.41	.68	3.67	4.22	5.56	1.55
1972	0	.45	.71	2.44	2.37	5.68	1.57
1971	0	.44	1.08	2.53	2.50	N/A	2.41

Table 8.8
Ontario Public Sector, Employer Costs to Liquidate Actuarial Deficiencies, as a Percentage of Pensionable Payroll, Health Sub-sector, 1971-1977

	Hospitals of Ontario Pension Plan	Kingston General Hospital	Hospital for Sick Children	Ontario Cancer Institute
1977	1.50	.0	1.4(E)	0
1976	.51	.0	1.5(E)	0
1975	.57	7.0	1.6(E)	0
1974	N/A	1.4	.7(E)	0
1973	.28	.0	.4(E)	0
1972	N/A	.0	.0(E)	0
1971	.38	.0	.0(E)	0

E - Estimate.

Table 8.9

Ontario Public Sector, Employer Costs to Liquidate Actuarial Deficiencies, as a Percentage of Pensionable Payroll, Education Sub-sector, 1971-1977

	TSF	York Univ.	Wilfrid Laurier Univ.	McMaster University (contributory)	Univ. of Toronto	Univ. of Guelph (retirement)	Univ. of Guelph (prof.)	Univ. of Guelph (non-prof.)	Ryerson	Univ. of Waterloo	Univ. of Ottawa
1977	5.74(E)	1.81	2.23	N/A	1.55	2.02	4.48	.73	.99	.77	N/A
1976	1.69	1.78	1.88	.63	1.32	2.07	3.47	.90	.96	.03	2.60
1975	6.94	1.78	1.52	N/A	1.28	2.85	3.05	.70	N/A	N/A	.00
1974	7.52	1.79	.00	1.39	1.39	.96	1.22	.48	.31	N/A	.00
1973	.98	1.79	.00	N/A	N/A	1.19	1.23	.45	N/A	N/A	.00
1972	1.99	1.78	.00	N/A	1.31	2.88	3.15	.19	N/A	N/A	.00
1971	1.89	1.23	.00	N/A	N/A	.26	.01	.00	N/A	N/A	.00

E - Estimate.

Table 8.10
Ontario Public Sector, Employer Costs to Liquidate Actuarial Deficiencies, as a Percentage of Pensionable Payroll, Provincial Utilities Sub-sector, 1971-1977

	Ontario Hydro Pension Plan	Ontario Northland Transportation Commission
1977	5.6(E)	15.73
1976	5.18	15.96
1975	N/A	11.51
1974	N/A	17.22
1973	3.69	10.91
1972	N/A	7.81
1971	5.02	6.95

E - Estimate.

PENSION PLAN FUND ASSETS AND LIABILITIES

Tables 9.1 to 9.5 list the following for various plans in each sub-sector:

1. book and market value of pension plan assets and date of valuation;

2. actuarial liability and date of actuarial liability;

3. the ratio of assets/liabilities obtained by dividing the greater of book or market value by the actuarial liability of that plan.

This ratio measures the level to which the plan is funded to meet the liabilties.

Ratios in (3) were not calculated for those plans where the date of liability valuation did not coincide with the date of asset valuation. This disparity occurs because the two valuations are done independently. Assets are usually valuated by a plan's investment manager on a regular yearly basis, while liabilities have to be valuated every three years at least to meet the requirements of the Pension Commission of Ontario.

Moreover, this ratio was not calculated for the following types of plans:

1. Money-purchase plans: in such plans, liabilities arising from promised benefits always coincide with the assets value.

2. Modified money-purchase plans with a minimum guarantee: the actuarial liability in this type of plan refers to the minimum guarantee portion of the fund, the assets for which usually constitute a small fraction of the total assets.

Tables 9.6 to 9.10 show the liability assessed with regard to current pensioners in dollar terms, and as a proportion of the total liabilities of each plan for various plans in each sub-sector of the Ontario public sector.

A number of questions and up-dates to Tables 9.1 to 9.10 were made after the material was delivered to the Commission by Dr. Kelly. These changes have been incorporated in the tables that follow.

Table 9.1
Ontario Public Sector, Assets and Liabilities of Pension Plans, Provincial Government Sub-sector, as of December 31, 1977

Pension plan	Size of the fund		Liability of the fund(a)	Ratio of(b) assets/liability
	Book value	Market value		
	(Dollars)		(Dollars)	(Per cent)
Public Service Superannuation Fund	1,459,046,000(a)	Not applicable	1,870,261,000(f)	78
Workmen's Compensation Board	64,413,000	64,010,000	54,520,000(f)	135(e)
	73,520,000(d)			
Ontario Stock Yards Board	1,011,205	1,020,336	1,017,917	100
Ontario Educational Communications Authority	N/A	3,939,824	2,219,427(c)	

a As of December 31, 1978.
b The ratio of assets/liability is not calculated for plans where the assets and liability valuation dates are different.
c As of January 1, 1976.
d Actuarial value of fund assets on hand at December 31, 1977.
e Ratio of actuarial value of assets to liabilities.
f Liabilities are for accrual benefits only. Total liabilities on a projected benefit basis are $3,120,251,000 for PSSF and $98,632,000 for WCB.

Table 9.2
Ontario Public Sector, Assets and Liabilities of Pension Plans, Municipal Sub-sector, as of December 31, 1977

Pension plan	Size of the fund: Book value (Dollars)	Size of the fund: Market value (Dollars)	Liability of the fund (Dollars)	Ratio of(a) assets/liability (Per cent)
City of Toronto (civic employees)	93,184,930	86,336,831	176,205,000(b)	
City of Toronto (firefighters)	55,517,962	50,690,725	74,823,200(b)	
Borough of York	16,635,175	15,920,662	30,629,000(c)	54
City of Ottawa	67,254,365	63,213,216	69,711,024	96
City of North Bay	587,784	633,676	N/A	
Nickel District Conservation Authority	7,752		Money purchase	
Hamilton Regional Conservation Authority	49,401		Money purchase	
Ontario Municipal Employees Retirement System	1,079,000,000	85% non-marketable	919,000,000(d)	117.4
Metro Toronto (civic)	117,463,796	114,243,044	250,682,032(f)	47
Metro Toronto police	108,321,940	99,915,201	215,313,572(f)	50
Town of Mimico	1,008,835(b)	N/A	2,112,475(b)(f)	47
Town of New Toronto	1,544,367(b)	N/A	2,713,117(b)(f)	57
Town of Tilsonburg	345,916(e)	365,924(e)	Money purchase	
Toronto Transit Commission	122,849,744(b)	117,531,180(b)	151,205,253(b)	81

a The ratio of assets/liability is not calculated for plans where the assets and liability valuation dates are different.
b As of December 31, 1976.
c As of January 1, 1978.
d The liability for OMERS has been calculated on a career average plan rather than the new final average plan in effect since January 1, 1978.
e As of July 31, 1977.
f Includes liability for future service.

Table 9.3
Ontario Public Sector, Assets and Liabilities of Pension Plans, Health Sub-sector, as of December 31, 1977

Pension plan	Size of the fund: Book value	Size of the fund: Market value	Liability of the fund	Ratio of(a) assets/liability
	(Dollars)		(Dollars)	(Per cent)
Hospitals of Ontario Pension Plan	595,323,627 (748,196,000)(f)	604,483,812 (757,578,000)(g)	700,000,000 (831,389,000)	86 (91)
Kitchener-Waterloo Hospital	N/A	6,661,731	4,915,217(b)	
Kingston General Hospital (part-time employees)	243,009	252,381	189,986(b)	
Toronto Western Hospital	12,651,908	12,502,663	14,764,000	86
Ontario Cancer Institute	6,937,104(c)	6,937,104(c)	18,444,700(d)(e)	37
Hospital for Sick Children	28,242,763	28,747,739	30,453,361	94

a The ratio of assets/liability is not calculated for plans where the assets and liability valuation dates are different.
b As of December 31, 1976.
c As of June 30, 1977.
d As of July 1, 1977.
e Includes liability for future service.
f As of December 31, 1978.
g Actuarial value of fund assets on hand as of December 31, 1978.

Table 9.4
Ontario Public Sector, Assets and Liabilities of Pension Plans, Education Sub-sector

Pension plan	Size of the fund: Book value	Size of the fund: Market value	Liability of the fund	Ratio of(a) assets/liability
	(Dollars)		(Dollars)	(Per cent)
Teachers' Superannuation Fund	3,370,512,000	Non-marketable	5,095,892,800	66
	as of December 31, 1978		as of December 31, 1978	
Queen's University	39,721,116	39,095,731	5,245,437(b)(c)	
	as of August 31, 1977		as of August 31, 1975	
Trent University	5,440,082	5,539,668	6,182,713	88
	as of July 1, 1977		as of July 1, 1977	
Wilfrid Laurier University	6,502,000	6,740,000	2,774,675(b)(c)	
	as of December 31, 1977		as of July 1, 1976	
University of Western Ontario - academic plan (1939)	31,652,214	31,760,879	28,473,898	
	as of December 31, 1977		as of July 1, 1977	
University of Western Ontario - administrative plan (1939)	11,758,130	11,797,745	9,943,512	
	as of December 31, 1977		as of May 1, 1977	
Laurentian University	5,636,265	5,373,337	6,609,676	
	as of December 31, 1977		as of June 30, 1978	
Nipissing University College	365,725	N/A	N/A	
	as of December 31, 1977			
Carleton University	30,391,659	30,789,415	8,381,311(b)(c)	
	as of December 31, 1977		as of June 30, 1976	

a The ratio of assets/liability is not calculated for plans where the assets and liability valuation dates are different.
b Includes liability for future service.
c Refers to the minimum guarantee portion of the plans.

Table 9.4 (continued)
Ontario Public Sector, Assets and Liabilities of Pension Plans, Education Sub-sector

Pension plan	Size of the fund		Liability of the fund	Ratio of(a)
	Book value	Market value		assets/liability
	(Dollars)		(Dollars)	(Per cent)
York University	35,604,338	36,014,328	18,041,481(b)(c)	
	as of December 31, 1977		as of December 31, 1976	
University of Ottawa	39,419,853	38,485,524	41,813,121	
	as of January 1, 1977		as of January 1, 1977	94
McMaster University	43,350,940	43,122,284	124,379,488(b)	
(contributory plan)	as of December 31, 1977		as of June 30, 1977	
McMaster University	804,777	776,244	850,474	
(non-contributory plan)	as of December 31, 1977		as of June 30, 1977	
Algoma University College	558,331	576,763	301,171	
	as of June 30, 1978		as of July 1, 1978	192
King's College	187,124	188,216	Money purchase	
	as of December 31, 1977			

a The ratio of assets/liability is not calculated for plans where the assets and liability valuation dates are different.
b Includes liability for future service.
c Refers to the minimum guarantee portion of the plans.

Table 9.4 (concluded)
Ontario Public Sector, Assets and Liabilities of Pension Plans, Education Sub-sector

Pension plan	Size of the fund		Liability of the fund	Ratio of(a) assets/liability
	Book value	Market value		
	(Dollars)		(Dollars)	(Per cent)
University of Toronto (academic & admin. plan)	141,287,309	138,422,100	151,689,131	93
	as of June 30, 1977		as of June 30, 1977	
University of Waterloo	35,632,496	36,626,485	43,178,828	83
	as of December 31, 1977		as of December 31, 1977	
University of Guelph Retirement Plan	11,447,847	11,964,337(d)	23,177,200(b)	52
	as of December 31, 1977		as of December 31, 1977	
University of Guelph Professional Plan	31,717,299	33,118,617(d)	74,389,202(b)	45
	as of December 31, 1977		as of December 31, 1977	
University of Guelph Non-professional Plan	2,828,618	2,966,773(d)	8,169,660(b)	36
	as of December 31, 1977		as of December 31, 1977	
Brock University	6,676,178	6,523,203	2,658,122(c)	
	as of July 1, 1977		as of July 1, 1977	
Ryerson Polytechnical Institute	14,956,477	14,996,295	15,858,009	95
	as of December 31, 1977		as of January 1, 1978	
Ontario Institute for Studies in Education	N/A	5,508,759	5,234,568	111
	as of June 30, 1977		as of June 30, 1977	
Colleges of Applied Arts and Technology	130,760,947	131,347,921	102,713,511	
	as of December 31, 1977		as of January 1, 1977	

a The ratio of assets/liability is not calculated for plans where the assets and liability valuation dates are different.
b Includes liability for future service.
c Refers to the minimum guarantee portion of the plans.
d Adjusted market value.

Table 9.5
Ontario Public Sector, Assets and Liabilities of Pension Plans, Provincial Utilities Sub-sector, as of December 31, 1977

Pension plan	Size of the fund		Liability of the fund	Ratio of(a) assets/liability
	Book value	Market value		
	(Dollars)		(Dollars)	(Per cent)
Ontario Hydro	970,563,000(d)	1,063,745,000	1,073,147,000	99
Ontario Northland Transportation Commission	53,549,590(d)		146,684,242(e)	37

a The ratio of assets/liability is not calculated for plans where the assets and liability valuation dates are different.
b As of December 31, 1976.
c As of December 31, 1975.
d All as of December 31, 1978.
e Includes liability for future service.

Table 9.6
Ontario Public Sector, Liability Data for Current Pensioners, Provincial Government Sub-sector

Pension plan	Liability for current pensioners	Ratio of liability for pensioners to total liabilities of the plan	Date of actuarial valuation
	(Dollars)	(Per cent)	
Public Service Superannuation Fund	473,364,000	25.31	December 31, 1978
Workmen's Compensation Board	13,824,000	25.24	December 31, 1977
Ontario Stock Yards Board	337,569	33.16	December 31, 1977
Ontario Educational Communications Authority	22,434	1.01	January 1, 1976

Table 9.7
Ontario Public Sector, Liability Data for Current Pensioners, Municipal Sub-sector

Pension plan	Liability for current pensioners (Dollars)	Ratio of liability for pensioners to total liabilities of the plan (Per cent)	Date of actuarial valuation
Ontario Municipal Employees Retirement System	195,000,000	21.22(E)	December 31, 1977
Metro Toronto employees	26,364,420	10.52(a)	December 31, 1977
Metro Toronto police	39,225,423	18.22(a)	December 31, 1977
City of Toronto civic employees	36,386,000	20.65	December 31, 1976
City of Toronto firemen	16,573,800	22.15	December 31, 1976
Borough of York employees	4,853,000	15.84	January 1, 1978
Mimico	514,911	24.37(a)	December 31, 1976
New Toronto	643,058	23.70(a)	December 31, 1976
Toronto Transit Commission	43,670,244	28.88	December 31, 1976

E - Estimate.
a Includes liability for future service.

Table 9.8
Ontario Public Sector, Liability Data for Current Pensioners, Health Sub-sector

Pension plan	Liability for current pensioners (Dollars)	Ratio of liability for pensioners to total liabilities of the plan (Per cent)	Date of actuarial valuation
Hospitals of Ontario Pension Plan	148,023,000	17.80	December 31, 1978
Toronto Western Hospital Plan	1,284,000	9.07	December 31, 1977
Hospital for Sick Children	4,931,265	16.2	December 31, 1977
Kingston General Hospital	0	0	December 31, 1976

Table 9.9
Ontario Public Sector, Liability Data for Current Pensioners, Education Sub-sector

Pension plan	Liability for current pensioners (Dollars)	Ratio of liability for pensioners to total liabilities of the plan (Per cent)	Date of actuarial valuation
Teachers' Superannuation Fund	905,635,000	17.77	December 31, 1978
Queen's University	333,344(a)(b)	6.35	August 31, 1975
Trent University	410,137	6.63	July 1, 1977
University of Ottawa	1,595,103	3.81	January 1, 1977
York University	674,911(a)(b)	3.74	December 31, 1976
Wilfrid Laurier University	64,875(a)(b)	2.34	July 1, 1976
University of Western Ontario (academic)	781,334	2.74	July 1, 1977
University of Western Ontario (administrative)	419,050	4.21	May 1, 1977
Laurentian University	22,352	.58	June, 1975
McMaster University (contributory)	2,371,803(b)	1.91	June 30, 1977
McMaster University (non-contributory)	150,552	17.70	June 30, 1977
Carleton University	48,324(a)(b)	.58	June 30, 1976
University of Toronto	32,146,126	21.19	June 30, 1977
University of Waterloo	2,665,682	6.17	December 31, 1977
Lakehead University - professional	23,256	.78	December 31, 1977
University of Guelph Retirement Plan	4,534,951(b)	19.57	December 31, 1977
University of Guelph Professional Plan	3,849,830(b)	5.18	December 31, 1977
University of Guelph Non-professional Plan	180,907(b)	2.21	December 31, 1977
Brock University	197,643(a)	7.44	July 1, 1977
Ryerson Polytechnical Institute	762,961	4.81	January 1, 1978
Colleges of Applied Arts and Technology	2,749,445	2.68	January 1, 1977
Algoma University College	40,200	13.35	December 31, 1978

a Refers to the minimum guarantee portion of the fund.
b Includes liability for future service.

Table 9.10
Ontario Public Sector, Liability Data for Current Pensioners, Provincial Utilities Sub-sector

Pension plan	Liability for current pensioners	Ratio of liability for pensioners to total liabilities of the plan	Date of actuarial valuation
	(Dollars)	(Per cent)	
Ontario Hydro Pension Plan	202,438,000	18.86	December 31, 1978
Ontario Northland Transportation Commission Pension Plan	33,040,564(a)	22.52	December 31, 1978

a Includes liability for future service.

PENSION FUND INVESTMENTS

The investments of the pension funds may be categorized as follows:

1. Provincial government liabilities: including deposits and/or debentures. Two funds (PSSF and TSF) are entirely within this category, while one fund (OMERS - including its two administered funds) has been so in the past, but is in the process of diversifying its portfolio by investing part of its new funds in the market. The assets of those funds are included in the table below.

2. Direct market investments: This category includes other large pension funds, e.g., Ontario Hydro, Hospitals of Ontario Pension Plan, university pension funds, etc., which have independent investment management policies. These funds are either invested through in-house groups or through a trust company. Thirty-three funds in this category are included in the table below.

3. Deposits with insurance companies: This category includes the assets of most of the smaller plans, and a few large ones. The table below includes the data on the plans which have only part of their funds invested with insurance companies. Very few plans with all their funds deposited with insurance companies have supplied the data which is as follows:

Sector	Number of funds	Dollars
Government	3	N/A
Health	1	6,937,104
Municipal	5	2,086,271
	19	N/A
Education	5	49,621,322
	9	N/A

Note Eighty-eight per cent of the funds in the education sector belongs to the two pension plans of the University of Western Ontario which are the only large plans to have invested their assets this way.

Table 10 presents the current assets and investment mix for each sub-sector based on the plans listed below:

Sub-sector:

Government: Public Service Superannuation Fund, Workmen's Compensation Board, Ontario Stock Yards Board, Ontario Educational Communications Authority.

Health: Hospitals of Ontario Pension Plan, Kitchener-Waterloo Hospital, Kingston General Hospital, Hospital for Sick Children, Toronto Western Hospital.

Municipal: Ontario Municipal Employees Retirement Systems, Metro Toronto Employees, Metro Toronto Police, City of Toronto Employees, City of Toronto Firemen, Borough of York, City of Ottawa, Toronto Transit Commission.

Education: Teachers' Superannuation Fund, Queen's University, Trent University, University of Ottawa, York University, Wilfrid Laurier University, Laurentian University, Algoma University College, McMaster University (2 plans), Carleton University, University of Toronto (administrative and academic plan), University of Waterloo, University of Guelph (3 plans), Brock University, Ryerson Polytechnical Institute, Colleges of Applied Arts and Technology.

Provincial Utilities: Ontario Hydro, Ontario Northland Transportation Commission.

Table 10
Ontario Public Sector, Pension Fund Investment Portfolio, by Sub-sector, December 1977 or Latest Available Date(a)

Investment instrument	Government		Health		Municipal		Education		Utilities		Total	
	(Millions of dollars)	(Per cent)	(Millions of dollars)	(Per cent)	(Millions of dollars)	(Per cent)	(Millions of dollars)	(Per cent)	(Millions of dollars)	(Per cent)	(Millions of dollars)	(Per cent)
Debt (bonds)												
Public	29.6	2.1	88.8	13.8	230.2	14.1	26.6	.9	128.1	17.5	503.4	6.9
Private	18.9	1.4	191.1	29.7	196.7	12.0	83.2	2.9	132.4	18.0	622.3	8.5
Combined (no breakdown)							47.7	1.6			47.7	.7
Equity (stocks)	11.6	.8	185.9	28.9	122.0	7.4	163.5	5.6	233.6	31.9	716.6	9.8
Real estate					16.0	1.0	.6	(b)	.3	(b)	16.9	.2
Mortgages	7.9	.6	121.3	18.9	149.1	9.1	92.4	3.2	228.2	31.1	598.9	8.2
Other real estate and mortgage (no breakdown)							4.2	.1			4.2	.1
Short-term investments	1.3	.1	28.7	4.5	5.0	.3	22.3	.8	.7	.1	57.9	.8
Cash on hand	(b)	(b)	22.0	3.4	4.0	.2	8.4	.3	1.4	.2	35.8	.5
Other (accrued interest and net receivables)	(b)	(b)	.6	.1	2.1	.1	2.8	.1	8.9	.1	14.4	.2
Insurance company deposits			4.8	.7			1.8	.1			6.6	.1
Ontario treasury deposits/non marketable provincial debentures	1,324.0	95.0			913.3	55.7	2,457.8	84.2			4,695.2	64.1
Total(c)	1,393.4	100.0	643.1	100.0	1,638.5	100.0	2,911.4	100.0	733.6	100.0	7,319.9	100.0
Number of portfolios included	4		5		8		17		2		36	

a Figures summed do not correspond in all cases to the data in the assets and liabilities table as they could be for a different date. The other pension plans did not provide investment information regarding their portfolios.
b Indicates less than .1 per cent.
c Totals may not add due to rounding.

ANNUALIZED YIELDS OF PENSION FUNDS

Tables 11.1 to 11.5 show the annual yields for the period 1972-1977 of pension funds based on book or market value held by the same 36 plans included in Table 10. These yields were submitted by the plan sponsors in reply to the questionnaire which specified the method for their calculations as follows:

$$r = \frac{2I}{a + b - I}$$

where r = annualized rate of return
a = total fund at the beginning of a year
b = total fund at the end of the year
I = investment and interest income including capital gains and losses less the administration and other expenses in the year

It should be pointed out that the figures for the annual yield are taken directly from the questionnaire returns, and could not be independently verified.

Tables 11.1 to 11.5 also list the investment income in 1977 (or latest period available) for each plan. These figures were obtained from the financial statements or the actuarial valuations supplementing the returned questionnaires. In cases for which the 1977 investment income was not available, the figure for the latest period was used. Where investment income is for a period of more than a year, the figure used refers to the entire period and is not an annual average for that period.

Table 11.1
Ontario Public Sector, Annualized Yield (1972-1977) and Investment Income (1977), Provincial Government Sub-sector

Fund(a)	Percentage yield on fund						Book or market value	Investment income 1977	Years if not 1977
	1972	1973	1974	1975	1976	1977			
	(Per cent)							(Dollars)	
PSSF	6.00	6.30	6.59	7.08	7.56	7.94	Book	93,302,788	
WCB	5.49	5.17	5.60	5.98	6.81	7.32	Book	4,276,00	
Ontario Stock Yards Board	16.43	-6.62	-10.47	13.45	15.00	8.85	Book	225,288	1975-1977
Ontario Educational Communications Authority	13.57	-.25	-10.14	16.24	14.05	8.97	Market	N/A	

a The other pension plans did not provide information on investment returns.

Table 11.2
Ontario Public Sector, Annualized Yield (1972-1977) and Investment Income (1977), Municipal Sub-sector

Fund(a)	Percentage yield on fund						Book or market value	Investment income 1977	Years if not 1977
	1972	1973	1974	1975	1976	1977			
	(Per cent)							(Dollars)	
OMERS	7.72	7.74	8.07	8.48	8.92	9.10	Book	105,549,040	
Metro Toronto employees					8.01	8.37	Book		
Metro Toronto police					7.57	7.35	Book		
City of Toronto civic employees	5.17	5.25	5.79	5.77	6.18	6.56	Book	229,988	1976
City of Toronto firemen	4.92	5.03	5.11	5.54	5.70	6.49	Book	2,568,691	1976
Borough of York	7.5	7.7	7.6	8.4	8.6	8.8	Book	1,323,877	
City of Ottawa	6.79	6.77	6.20	6.83	7.63	6.83	Book	4,348,366	
Toronto Transit Commission	10.23	10.77	14.29	14.89	15.29		Book	7,753,852	1976

a The other pension plans did not provide information on investment returns.

Table 11.3

Ontario Public Sector, Annualized Yield (1972-1977) and Investment Income (1977), Health Sub-sector

Fund(a)	Percentage yield on fund						Book or market value	Investment income 1977	Years if not 1977
	1972	1973	1974	1975	1976	1977			
	(Per cent)							(Dollars)	
Hospitals of Ontario Pension Plan	4.7	6.7	4.4	6.8	7.5	8.1	Book(b)		
Kitchener-Waterloo Hospital	15.88	.30	-9.50	10.99	8.33	7.64	Market	256,911	
Kingston General Hospital	8.81	4.70	1.58	11.18	16.90		Book	34,714	1974-1976
Hospital for Sick Children	3.86	5.50	6.37	7.01	7.00	7.57	Market	1,911,287	
Toronto Western								492,097	1975

a The other pension plans did not provide information on investment returns.
b HOOPP did not provide market value returns.

Table 11.4

Ontario Public Sector, Annualized Yield (1972-1977) and Investment Income (1977), Education Sub-sector

Fund(a)	Percentage yield on fund						Book or market value	Investment income 1977	Years if not 1977
	1972	1973	1974	1975	1976	1977			
	(Per cent)							(Dollars)	
Teachers' Superannuation Fund	N/A	7.69	6.87	7.56	7.65	8.10	Book	166,240,000	
Queen's University	14.6	.1	-15.9	17.6	8.6	10.7	Market		
York University	10.44	-2.935	-3.813	10.559	5.542	7.298	Market	1,754,113	
Trent University								299,861	
Wilfrid Laurier			11.25	10.11	11.6	12.4	Market	143,236	
Laurentian University								300,081	
Nippissing Univ. Coll.	6.24	6.80	7.30	7.60	7.48	8.025	Book		
McMaster University Contributory Plan	11.38	1.09	-4.68	9.43	9.27	7.51	Market	2,372,123	July 1976-June 1977
McMaster University General Plan		4.73	6.27	7.28	7.60	6.83	Market	52,173	
University of Toronto		7.07	7.07	6.78	6.31	6.28	Book		
University of Waterloo	19.90	-4.94	-9.58	11.96	11.74	9.64	Market	2,000,000(E)	
University of Guelph	5.0	5.6	5.6	6.2	6.7	6.8	Book		
Brock University	13.16	1.42	-8.55	10.2	6.18	9.98	Market	407,802	
Ryerson Polytechnical Institute			8.1	8.5	9.0	9.2	Book	1,199,000	
Colleges of Applied Arts and Technology			8.5	8.8	9.2	9.5	Book	10,697,000	

E - Estimate.

a The other pension plans did not provide information on investment returns.

Table 11.5

Ontario Public Sector, Annualized Yield (1972-1977) and Investment Income (1977), Provincial Utilities Sub-sector

Fund	Percentage yield on fund						Book or market value	Investment income 1977	Years if not 1977
	1972	1973	1974	1975	1976	1977			
	(Per cent)							(Dollars)	
Ontario Hydro	5.5	6.0	6.5	6.2	6.2	7.6	Book	38,810,000	1976
Ontario Northland Transportation Commission	6.0	8.1	6.7	4.8	7.3	8.1	Book	3,317,565	

Study of Public Sector Pension Plans

Keith H. Cooper

January 3, 1979

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INTRODUCTION

We have been requested by the Royal Commission on the Status of Pensions in Ontario to undertake a study of the six major Ontario Public Sector Pension Plans (PSPP) noted below:

- Public Service Superannuation Fund (PSSF)
- Teachers' Superannuation Fund (TSF)
- Ontario Municipal Employees Retirement System (OMERS)
- Hospitals of Ontario Pension Plan (HOOPP)
- Ontario Hydro Employees' Pension Plan (Hydro)
- Ontario Workmen's Compensation Board Superannuation Plan (WCB)

The terms of reference were as follows:

1. Advise the Commission whether the costs and the statement of actuarial and unfunded liabilities are the true costs and liabilities of each of the plans using data for the most current year or two years;

2. Advise the Commission whether the actuarial funding methods used are suitable for each of the plans in the circumstances;

3. Advise the Commission whether the actuarial funding methods of public sector employee pension plans should be different than those of private sector employee pension plans; and

4. Advise the Commission of any problems with regard to the above and advise of any areas requiring further information or clarification.

The terms of reference were verbally expanded to include the Adjustment Funds covering the funding of indexation payments for both Ontario Public Service employees and Ontario teachers.

This analysis was achieved by:

1. Examining the issues involved in funding public sector pension plans;

2. Reviewing existing guidelines for funding public sector pension plans;

3. Analyzing funding considerations associated with the indexing of public sector pension plans; and

4. Reviewing the current funding practices for the six public sector pension plans.

The findings of this study have been summarized in the final section of the report for easy reference.

ISSUES INVOLVED IN FUNDING PUBLIC SECTOR PENSION PLANS

The Desirability of Pre-funding

The funding of public sector pension plans (PSPPs) is a controversial subject. At one extreme, we find those who advocate pay-go funding in recognition of the fact that the government has an ongoing tax base from which to generate the necessary revenues to support the obligations of the pensions promised. Consequently, they question why huge reserves need to be established to cover these future promises when such assets could be put to better use today. Furthermore, they question why more valuable or "hard" dollars should be tied up today when future payments can be made with cheaper or "soft" dollars.

Those who advocate the funding of PSPPs, on the other hand, are concerned about the future ability of the government, regardless of its size, to meet pension obligations unless a disciplined approach to pre-funding has been undertaken. They see the desirability in charging current generations for their fair share of the cost of pension promises made to current members of the government. Good accounting practices are foremost in their minds as is the desirability of assuring the plan members of the security of their pension promises. Real assets also represent a base to fall back on should the government run into cash flow difficulties. The recent experience in New York City and the current Cleveland financial crisis are certainly evidence of the need for real assets versus using public debt.

In Ontario, there is no issue over whether to pre-fund PSPPs since the Ontario Pension Benefits Act requires pre-funding. What is at issue are a number of other factors tied to the funding process that need to be addressed. Each of these issues will now be discussed.

Benefit Levels

It is evident that overly generous benefit levels, in relation to what could be described income "adequacy," and other provisions such as generous early retirement features and unlimited indexing of pensions in payment, can lead to excessive costs to the employer. Good plan design is required to place adequate controls on pension costs.

In turn, it is imperative that if constraints on benefit levels and related plan provisions cannot be achieved, then the cost of such benefits must be calculated as realistically as possible by using up-to-date actuarial assumptions, and each unit within the government must incorporate such costs into its yearly budgets. Only in this way will

true recognition of such costs be reflected and become a charge to each year's taxes generated to support that unit. Once this is achieved, benefit levels will remain as is or will be adjusted depending on the taxpayers' willingness to accept the taxes being imposed. An analysis of the New York City pension situation suggests that the absence of this vital control mechanism led to the introduction of pension provisions that proved to be far more expensive than first realized (primarily due to the use of inadequate actuarial assumptions). Had each unit of government borne the true cost of its pension commitments, it is quite possible that the pension promises might never have been granted in the first place.

Table 1 compares the level of benefits available to members of New York City employees with those of other major U.S. cities and demonstrates how they have got out of line.

Table 1
Annual Retirement Benefit as a Percentage of Disposable (After-tax) Income in Final Year of Employment for City Employees

City	20 years' service	25 years' service
	(Per cent)	
New York	103	125
Chicago	37	47
Dallas	42	52
Denver	84	91
Detroit	94	104
Los Angeles	44	54
Memphis	44	54

Source Pensions and New York City's Fiscal Crisis, 1978.

In Ontario, the recent decision to charge the various school boards for the cost of pensions is consistent with the foregoing comments.

Inordinately large pay increases are automatically accompanied by large losses under a final pay pension formula. These losses have to be absorbed by the employer - in this case, the Province of Ontario. Until the decision was reached to require the local school boards to reflect such increased costs in their budgets, they had no possible way of recognizing the effect of permitting large pay increases to be granted to school teachers in their region.

Actuarial Assumptions

The use of actuarial assumptions that are not consistent with actual experience will generate gains if the assumptions are conservative, or losses if otherwise. In the case of New York City, the refusal by the plan trustees to utilize more up-to-date actuarial assumptions, as

determined from periodic experience studies, tended to undermine the financial soundness of the city's pension plans.

Any actuary who is doing a conscientious job should be utilizing actuarial assumptions that will assure the soundness of the plan. Only external factors which could not be anticipated should cause losses; for example, retirements occuring sooner than contemplated because of the introduction of machinery that makes certain jobs redundant.

In general, as long as experience studies are undertaken periodically to review such decrements as mortality, turnover, retirement and disability rates, and the results of these studies are reflected in the actuarial valuation assumptions, then there should not be any major concerns in this area.

Accounting of Costs

As commented on earlier, it is essential that the accounting of pension costs be made by each governmental unit in its budgeting process and that such costs be realistic (i.e. reflect the benefits promised and be based on realistic actuarial assumptions). To do otherwise is tantamount to a lack of control of where such costs are going in light of other related factors like wage increases, and, as well, does not provide proper recognition of the true cost implications to the present generation of taxpayers.

Investment of Funds

In Ontario, we find that the Teachers' Superannuation Fund (TSF) and the Ontario Municipal Employees Retirement System (OMERS) have funds invested in what is defined as "non-public debt" which is represented by non-marketable Ontario government debentures. Starting in 1975, OMERS began directing some of its cash flow toward the private sector and investing such funds in marketable securities. In 1979, OMERS will be free to invest 100 per cent of its cash flow in marketable securities. The Ontario Hydro Employees' Pension Plan (Hydro), the Hospitals of Ontario Pension Plan (HOOPP), and the Ontario Workmen's Compensation Board Superannuation Plan (WCB) all invest their funds externally in marketable securities.

The Ontario Public Service Superannuation Fund (PSSF), on the other hand, does not have any debt instruments issued to cover the assets of that plan. Instead, these funds become a part of the Consolidated Revenue Fund just as do the net deposits of the Province of Ontario Savings Office. Although there are no debt instruments for the PSSF assets, the government establishes a "Special Purpose Account" for keeping track of the inflows and outflows to the plan. Included in the inflows is the interest credited by the government to the so-called assets in the "Special Purpose Account."

Similar treatment to the PSSF is accorded to the "indexed" funds attached to the PSSF and TSF. These Special Purpose Accounts are referred to as the Public Service Superannuation Adjustment Fund (PSSAF) and the Teachers' Superannuation Adjustment Fund (TSAF).

On questioning individuals in the Treasury Division of the Ontario government, we were informed that Special Purpose Accounts are used instead of non-marketable debentures for a purely historical reason. The Ontario Legislature in 1920 decided that this was the way it was to be done. It should also be noted that the Ontario government guarantees the PSSF and TSF plans in its role as "employer." Before it can permit the assets of the TSF to be invested in marketable securities, the various school boards in Ontario would have to accept responsibility for the liabilities of the plan for the teachers in their jurisdiction as the municipalities have done in the case of OMERS.

There are several observations to be made about the procedures being used by the Ontario government for handling the assets of the PSSF, PSSAF, and TSAF.

1. By investing funds externally, the government should be able to generate a larger investment return than it would have to pay for similar funds borrowed in the marketplace. This applies equally to the TSF. The OMERS experiment corroborates this position.

2. By using "real" assets versus public debt, the government achieves at least the following two objectives:

    a) Plan members may experience a greater sense of security arising from the broader diversification of assets.

    b) Should any unit of government experience cash flow difficulties overall, and thereby not be able to meet its financial obligations, a part of which would be the required payments to pension plan beneficiaries (after utilizing current employee contributions in this regard), then in the instance where "real" assets exist, such assets could be used to meet current commitments. In the case where public debt is used, the assets belong to the government unit and the interest or the repayment of such debt can only come out of current government revenues which, if not available, leaves the pension plan beneficiaries in jeopardy.

3. If non-public debentures were issued, then this would have the effect of increasing the non-budgetary deficit and the government's net cash requirements in an amount equal to the net pension flow through the Special Purpose Accounts. There would not be any change in the budgetary deficit.

The other beneficial effect of using non-public debentures would be to make the government's outstanding debt more readily recognizable than it is today. Under the present arrangements, the total Ontario debt can only be determined by adding to its funded debt (i.e., public debt and non-public debt) the value of its unfunded debt which includes the PSSF, PSSAF, TSAF Special Purpose Accounts, the deposits from the Province of Ontario Savings Office, and certain advances payable.

4. By accepting the net flow of funds from the various government pension plans (PSSF, PSSAF, TSF, TSAF, and previously OMERS), the government reduces its external borrowing needs. However, with decreasing future capital expenditures, there appears to be less need for these funds. Recognizing the desirability of having tax revenues pay for general expenditures and having capital expenditures come out of debt, it is incumbent on the government that it does not fall into the trap of deploying capital derived from net pension fund flows toward general expenditures or toward nonproductive capital items. The government stated in its 1978 budget: "In an effort to en sure the successful implementation of this redeployment of public funds from the public to the private sector, the Government of Ontario initiated the OMERS experiment in 1975. This experiment has proven successful, and thought can now be given to instituting similar procedures for other sources of internal funds." This intention is certainly healthy. The 1978 Ontario budget also stated: "It [the investment of TSF funds privately] will not begin until after the report of the Ontario Royal Commission on Pensions has been received."

   The Ontario Government appears to be committed to deploying excess internally generated pension funds to marketable securities. This position is healthy and should be encouraged.

Funding Levels

Assuming that there is general recognition for the pre-funding of PSPPs, should there be any necessity for full funding using a projected benefit funding method such as entry age level premium or projected unit credit, the methods currently used for the six major Ontario PSPPs? A recent article in Financial Executive(1) suggests that a meaningful funding level for a pension plan would be to have assets at any point in time sufficient to cover its "accrued" benefits. This means sufficient assets at market value to provide all current employees and beneficiaries with the pensions they have accrued to that point in time. No future salary increases are assumed, benefits are based on service to that date, and discounts for future turnover are not applied.

Although funding of PSPPs is desirable, one can seriously question the desirability of one day having assets for the six major PSPPs that

are far in excess of their accrued liabilities. In fact, this is already the case for OMERS, HOOPP, Hydro, and the WCB with the two remaining plans within 15 per cent of being fully funded on an "accrued" liability basis. (See Item 7(c) of Section C of Appendix A for details).

It should be noted that the Ontario Pension Benefits Act prescribes a "Test Valuation" as a test for determining whether all or part of an actuarial deficiency must be amortized over a five-year rather than a 15-year period. This "Test Valuation" is very close to the "accrued liability" calculation. In fact, the "Test Valuation" could serve as a useful mechanism for developing a conservative approximation to the "accrued liability."

To prevent the PSPPs from becoming excessively funded, it is suggested that once the funded ratio under the "Test Valuation" reaches 100 per cent, the contribution required for the subsequent year not be permitted to exceed the amount necessary to maintain a 100 per cent funded status one year later, bearing in mind that pay increases must occur during the course of that year. The required contribution, therefore, would be the lesser of this revised amount, or the contribution otherwise developed following the requirements of the Ontario Pension Benefits Act.

An alternative to the use of the projected unit credit method prorated on service is the use of the same method, but prorating benefits using projected salaries. The resulting actuarial liability would be very close to the accrued liability in most instances, thereby making the ongoing valuation funding target (the actuarial liability) consistent with the goal of having assets approach the accrued liability. It may be desirable to move to this standard only when the point is reached at which the assets equate to 100 per cent of the accrued liability, otherwise it could take another 15 years to have the fund assets build to the accrued liability level.

There is probably no good reason why this standard, which has been suggested for public sector plans, could not be applied to private sector plans as well. Redundant funding is hardly desirable and, in effect, the present funding guidelines for Ontario using standard actuarial funding methods eventually lead to this unsatisfactory result. This is particularly true for government sponsored public sector pension plans where excess assets are not as necessary as in the private sector.

Cash Flow Considerations

It is evident that the PSSF and the two "adjustment" funds, the PSSAF and TSAF, could continue to form a part of the general assets of the province. This could be continued as long as the government was able to adequately forecast its future cash flow requirements, one part of which is its obligations under these three funds, and be satisfied that these commitments could be met. If there is any doubt

whatever, there is considerable value in deploying funds to the external marketplace, since such funds could be used to cover any potential cash flow shortage that might develop in the future.

Unfortunately, the prudence of today's government officials may not carry over to tomorrow's officials. What is understood and reflected on today may never be thought of or reviewed by others in the future. Recognition of this fundamental concern suggests that some portion of the assets of the funds, as well as the TSF, be deployed toward investment in external marketable securities.

GUIDELINES FOR FUNDING PUBLIC SECTOR PENSION PLANS

In November 1976, the Ontario Government issued a set of guidelines for the valuation of pension plans relating to the public sector. These are included herein as Appendix B. Apparently, at this time, these guidelines have been followed by the PSSF and TSF only. To the best of our knowledge, they have not been applied under the Hydro, HOOPP, and OMERS plans. They do not apply to other plans.

Critique of Guidelines

The following observations are made in respect to these guidelines.

Application of Guidelines

The guidelines apparently do not attempt to establish a basis for the triennial valuation required by the Ontario Pension Benefits Act. If the guidelines are designed meaningfully, they should be applicable to the triennial valuation.

Actuarial Method

The guidelines prescribed the use of any projected benefit funding method. In other words, the projection of salaries would be incorporated in final average plans (all five of the plans are now final average plans). Based on the comments made previously, it is questionable as to why the entry age funding method should be used other than to develop a relatively stable annual current service cost from year to year. This entry age method develops a larger actuarial liability than for the projected unit credit method, for example, and if overfunding is to be overcome, then there seems to be little justification to support the use of the entry age method other than to develop relatively stable current service costs.

One of the basic understandings under the PSSF and TSF is that employer current service contributions are to "match" employee contributions. This requirement undoubtedly goes back to the cost-sharing arrangement agreed to between the two parties for the cost of pensions.

However, this is far from reality as employer costs over the past 10 years for the PSSF and TSF have exceeded employee contributions, and substantially so under the TSF.

One unfortunate aspect of this "matching" requirement is that it can tend to force the actuary toward the adoption of a funding method and a set of actuarial assumptions that will develop a current service cost that closely approximates the employee contribution level. This hardly seems desirable, particularly since it virtually requires an actuary to adopt the entry age level premium method, which leads, over the long term, to full funding on a basis that is greater than if the projected unit credit method was employed. (See Chart 1 for graphical explanation of this phenomenon.)

Lastly, if the actuarial assumptions are to be realistic, it is imperative that the actuaries' inclination to use current and realistic assumptions not be inhibited by a constraint to equate employee and employer current service costs.

Decrement Assumptions

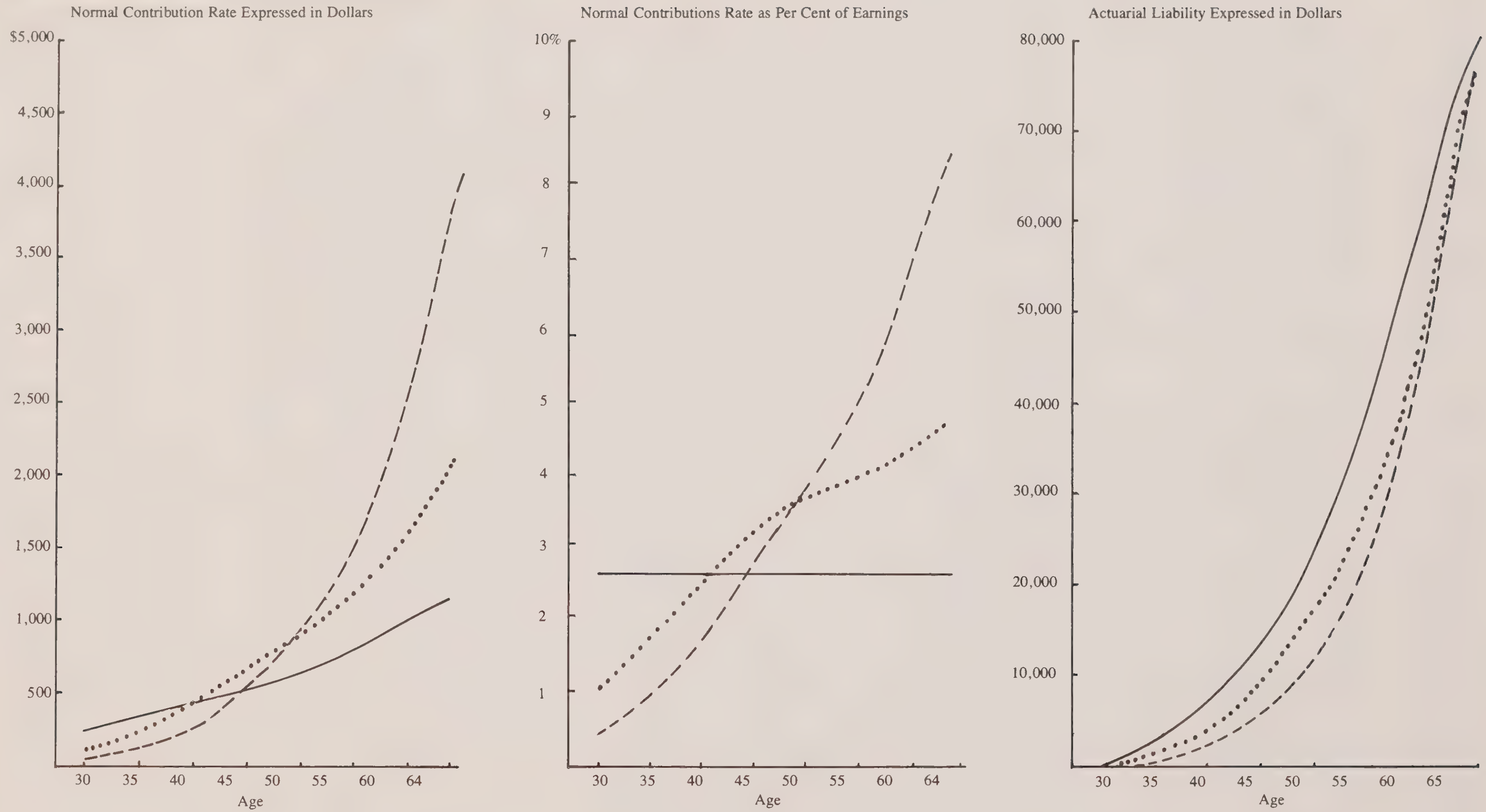
These assumptions, to the extent possible, should always be developed from recent experience studies conducted on the population data. The populations of these five plans are of sufficient size to justify the expense of undertaking such experience studies once every three years. Unless these studies are undertaken, there is no guarantee that the assumptions will be appropriate. In turn, there will be no assurance that the pace of funding will be adequate.

Economic Assumptions

The concept of establishing a realistic estimate of the actual rates of return on investments over the 10-year period following the valuation is desirable. However, when developing the rate for the years following this initial 10-year period, it is desirable that the actuary establish an investment rate of return that equals the rate of inflation plus the "real" rate of return anticipated to be earned, after expenses, on the various forms of assets to be held by the plan. This is vital if there is to be a natural correlation between the salary scale assumption (consisting of inflation, productivity, and merit/promotional increases) and the investment rate of return (consisting of inflation plus the "real" rate of return).

In Canada, over the past 50 years, the growth in "real" wages has followed a trend line of about 2.1 per cent per year (see Chart 2). This is very close to the average annual compound growth in productivity over this same period, namely, 2.25 per cent. Merit/promotional increases would be added to the productivity figure along with inflation to arrive at the total salary increase rate.

Chart 1
Comparison of Individual Actuarial Funding Methods



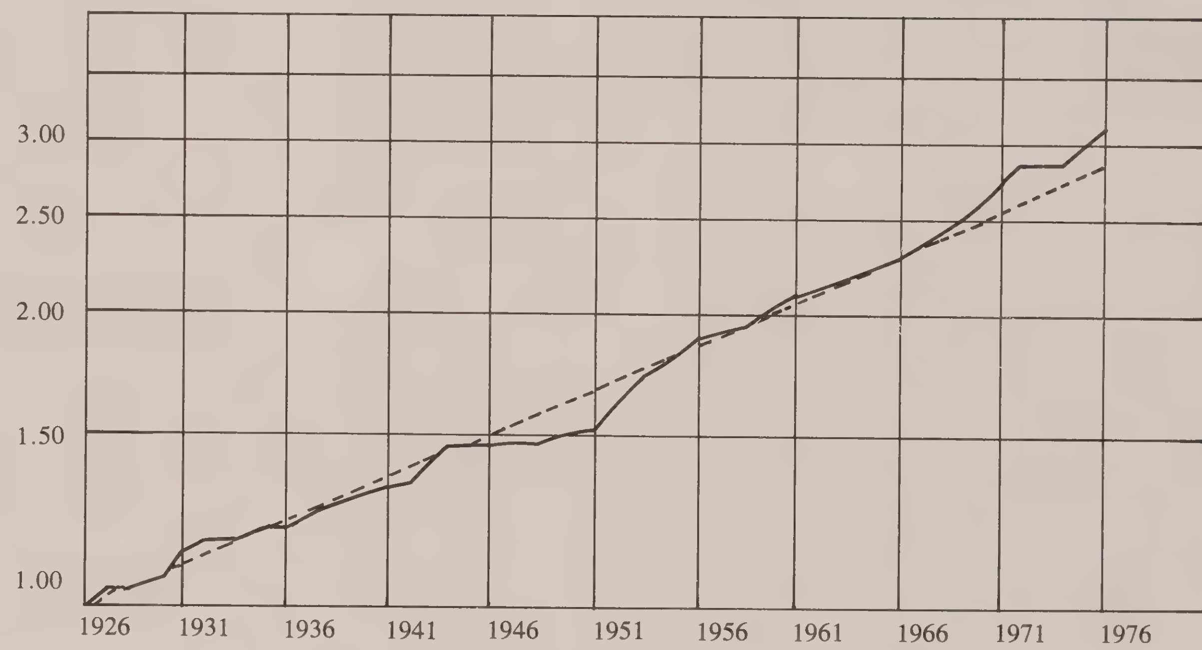
Assumptions

1. Male enters at age 30
2. Pension equal to 1 per cent of earnings in each year of service
3. Interest calculated at 5.5 per cent
4. Salary increases assumed 4.5 per cent
5. Salary at entry date $10,000
6. TPF&C 1971 Mortality Table assumed
7. Retirement Age 65
8. Benefit Payable for Life, guaranteed 5 years
9. Turnover—TPF&C Scales

Legend

----- Unit Credit Funding Method
..... Projected Unit Credit Funding Method
______ Entry Age Level Funding Method

Chart 2
Index for Real Wages in Canada



——— Actual

----- 2.1 per cent Trend Line

Source: Average Weekly Wages and Salaries Industrial Composite Index published by Statistics Canada

Real growth in investment rates of return varies significantly by the type of investment. This is seen on examination of Table 2 following which portrays the "real" rates of return for various forms of investments on a gross basis and after deducting an expense charge and a risk factor to arrive at what is termed a "pure" rate of return. This analysis demonstrates that "pure" investment returns at the following levels can be expected for average performance under stable economic conditions.

Fixed income - short term	1.0 - 1.25 per cent
Fixed income - long term	1.4 - 2.4 per cent
Equities	3.0 per cent

Assuming no risk and .4 of 1 per cent higher return on Ontario long-term debentures over Canada's long-term, it would be reasonable to assume that long-term Ontario debentures would generate a "real" rate of return of about 2.45 per cent. Application of the risk factor would reduce this to approximately 1.60 per cent.

The actuaries performing valuations for the five major government plans should be assigning "real" investment rates of return to the assets of the plans involved in the neighbourhood of the "pure" investment rates noted above based on the long-range asset mix of the plan as determined by the fund managers.

Valuation of Assets

The method for valuing assets should be consistent with the basis for valuing the liabilities of the plan (i.e. with the economic assumptions) and should reflect long-term rather than short-term values. Discounting debt securities at the valuation interest rate to arrive at a capitalized value for such securities is an example of using a consistent basis for valuing assets.

Cash Flow Analysis

This analysis is particularly important, since it offers a meaningful portrayal of the direction of cash flows to the fund as well as cash flows to the province over the next 10 years. This latter point applies particularly to the PSSF, TSF, PSSAF, and TSAF funds but not to the other plans. It may be of value under OMERS since eventually there will be a repayment of existing non-public debentures that presently form part of the fund. If these are simply rolled over rather than reinvested in marketable securities, then there might be less need for such analysis other than to monitor contribution levels and the cash flow of the fund for investment purposes. In the case of HOOPP and Hydro, a cash flow analysis would also be useful for investment purposes as well as to provide management with an indication of the general direction in which contributions will be heading over the next 10 years.

Table 2
Investment Rates of Return for Various Forms of Securities After Deducting Consumer Price Index Increases(a)

Form of security	Gross investment return	Expenses(b)	Net investment return = (1)-(2)	Risk factor(c)	Pure investment return = (3)-(4)
			(Per cent)		
3-month treasury bills	1.000	.200	.800	.000	.800
30-day paper	1.750	.200	1.550	.375	1.175
90-day paper	2.000	.200	1.800	.500	1.300
Long-term Canada	2.250	.200	2.050	.625	1.425
MYW 40-bond index	3.250	.200	3.050	1.125	1.925
Mortgages	4.500	.600	3.900	1.550	2.350
Common stocks (TSE Industrial Value Index)	5.500	.200	5.300	2.250	3.050

a Developed from Towers, Perrin, Forster and Crosby, Canada Economic Tables, July 1977.
b Assumes a fund of at least $50 million.
c Half of excess return over the no-risk 3-month treasury bill.

CANADIAN INSTITUTE OF ACTUARIES' RECOMMENDATIONS FOR VALUATIONS OF PENSION PLANS

In general terms, these recommendations are to apply to public sector as well as to private sector pension plans. The most recent recommendations are included as Appendix C. The principle of establishing the "accrued liability" as a funding target is inherent in these guidelines as is the "real" wage and investment rate of return concept. (See Table 1 at the end of the recommendations in Appendix C.)

The concept of anticipating automatic cost-of-living adjustments to benefits in payment is also embodied in the CIA recommendations. Where benefits are adjusted after retirement to keep pace with the cost of living, it is clear upon examining Table 1 of Appendix C, that the "pure" or "real" interest rate, plus any performance premium or less any performance discount, becomes the effective rate of interest since the inflation component of the investment return is paid to the beneficiary in the form of increased pension payments.

FUNDING CONSIDERATIONS FOR THE INDEXATION OF PUBLIC SECTOR PENSION PLANS

The concept of establishing separate funds for the funding of post-retirement adjustments to pensions in payment appears to stem from the basic cost-sharing principle discussed earlier. Commencing January 1, 1976, employees and the employer under the PSSF and TSAF each contributed 1 per cent of earnings to the PSSAF and TSAF. The fund is used to pay the indexed portion of pensions to those who may at one time have contributed to the fund. For those who retired prior to 1976, indexed pensions are paid out of the Consolidated Revenue Fund.

Cash flow projections prepared by the Chief Actuary for the Ontario Government using two sets of inflationary assumptions, one grading from 7.2 per cent in 1977 down to 4 per cent in 1991 and later and the other assuming 8 per cent inflation throughout, developed the following results from the PSSAF and TSAF.

	Graded inflation		8 per cent inflation	
	PSSAF	TSAF	PSSAF	TSAF
Year cash flow first negative	1986	1987	1985	1987
Year of maximum fund	1989	1991	1986	1988
Year fund first negative	1996	1999	1992	1995

The caluations assumed a stable population throughout and were based on an assumed investment rate of return for new investments of 8 per cent for 15 years and 6 per cent thereafter. The salary scale and the graded inflation scale used are set out below.

Year	Salary scale	Graded inflation scale
	(Per cent)	
1977	6.00	7.20
1978	7.00	7.25
1979	8.00	7.00
1980	8.00	6.75
1981	7.00	6.50
1982	6.75	6.25
1983	6.50	6.00
1984	6.25	5.75
1985	6.00	5.50
1986	5.75	5.25
1987	5.50	5.00
1988	5.25	4.75
1989	5.00	4.50
1990	4.75	4.25
1991 and later	4.50	4.00

These projections provide a picture of what the possible prognosis for these funds will be. Obviously, the present 1 per cent contribution rate will have to increase. The problem is somewhat similar to that of the Canada Pension Plan where current beneficiaries are reaping a windfall at the expense of future generations of workers.

The report on the Federal Public Service Pension program requested by the Treasury Board indicated that the cost of pre-funding the indexing features of the Federal Public Service Pension Plan would require an annual contribution of 8.5 per cent, or 6.5 per cent more than is now being contributed, plus an additional amount to provide for the amortization of the past service portion by 1990 (18.3 per cent of 1976 payroll grading to 8.8 per cent of payroll in 1990). Discussions with the Chief Actuary for the Ontario Government indicate that a study now being completed for the Ontario Treasury Ministry suggests that the current service indexing costs will be about 7 per cent of earnings for the PSSAF and TSAF or about 5 per cent of earnings above the present contribution level.

There is little doubt that the contribution rate for indexing will have to be increased. The basic issues are when and by how much. The entire problem revolves around the desirability of separating the funding for indexing of benefits from the funding of basic plan benefits and the continuation of the cost sharing of pensions between employees and the employer.

If the indexing and the basic plan benefits were funded together, a realistic assessment of the long-range current service cost of the plan could be developed with this figure split roughly 50-50 between the employee and the employer. The additional past service cost could be

absorbed by the government. The major advantages of this approach would be as follows:

1. A more consistent measure of the true value of the total pension package so that the 50-50 cost sharing principle between employees and their public sector employer could be reinstated.

2. A more consistent basis for funding the combined benefits (basic and indexed) could be developed, while at the same time pre-funding rather than partially funding the indexed portion.

3. Combining the indexing feature with the basic plan valuation enables the actuary to employ the "real" rate of investment return as the interest assumption in the post-retirement area, thereby utilizing a consistent set of actuarial assumptions for both the basic plan and the indexing feature. On the assumption that the assumed "real" rate of return can be earned in times of either high or low inflation, the cost of indexing will not change as inflation changes.

4. The concept described earlier of building up assets under the plan to a level not exceeding the accrued liabilities of the plan can still be introduced. The only difference would be that the future indexation of benefits would be incorporated into the accrued benefits. The only potential long-range dilemma here is that the employer contribution prospectively could become less than the employee's contribution. However, it should be noted that this will occur in part due to the fact the employer has been, and will continue for some time, contributing more than what the employee is contributing.

5. By building the cost of indexing in with the basic plan, there is a more meaningful comparison of costs between public sector plans with cost shared 100 per cent indexing (PSSF and TSF) and those with ad hoc 50 per cent employer paid indexing (OMERS, Hydro, and WCB).

To aid in clarifying how a more consistent basis for funding could be achieved, three tables (Tables 3, 4, and 5) have been constructed to demonstrate that, regardless of the rate of inflation, the same degree of funding should continue for the combined "basic" and "indexed" benefits as long as it can be assumed that the "real" rate of return (gross rate of return on investments less inflation) remains relatively constant irrespective of the level of inflation.

Table 3 develops the single sum needed to provide an annuity of $100 annually in arrears over a 15-year period where a "real" rate of return of 3 per cent is applicable. This table shows that, in the instance where zero inflation exists, the cost of this 15-year annuity

is approximately $1,200. With zero inflation, there is no cost associated with indexing, and hence the cost of the "basic" portion of the annuity is $1,200.

If we assume inflation runs at a 5 per cent rate over the 15-year period, and the total investment rate of return is 8 per cent (3 per cent "real" plus 5 per cent "inflation"), the cost of the "basic" portion is reduced to $855 because of the use of a higher discount rate (8 per cent) versus the 3 per cent discount rate applied under the zero inflationary scenario. However, with 5 per cent inflation, there is now a cost for "indexation." This equals $345 and, when added to the $855 "basic" portion cost, gives rise to a total combined cost of $1,200.

On examining Table 3, it can be seen that although the costs of the "basic" and "indexed" portions vary depending upon the level of inflation assumed, their combined cost remains the same, i.e. $1,200. In effect, the combined cost can be derived by discounting the "basic" portion by the assumed real rate of return (3 per cent in our example) and ignoring the cost of indexing. Inherent in this approach is the assumption that all investment earnings in excess of the real rate of return will be applied to pay for the cost of indexing pensions.

Table 3
Comparison of Annuity Present Values for Varying Rates of Inflation and a Constant "Real" Rate of Return

Rates of return			Present value of $100 annual annuity over 15 years		
Inflation	Real	Total	Total rate (real)(a)	Indexed portion (inflation)(b)	Basic portion (total)(c)
(1)	(2)	(3)	(4)	(5)	(6)
(Per cent)			(Dollars)		
0	3	3	1,200	-	1,200
3	3	6	1,200	230	970
5	3	8	1,200	345	855
7	3	10	1,200	440	760

Assumptions 1. A $100 annual annuity is assumed to be payable annually in arrears.
2. Total rate (based on real rate of return) is approximate since it actually varies slightly depending on the level of the rate of inflation.

a Provides for annual annuity of $100 annually increased by inflation rate. (This is calculated discounting $100 annual annuity payments at "real" rate shown in column (2).)

b Represents portion of assets required to pay for indexed portion of annuity, i.e., annual payments in excess of $100.

c Portion of fund required to fund flat $100 annuity assuming a rate of return equal to Total Rate, i.e., column (3) rate.

Table 4 demonstrates how this process would work when inflation is 3 per cent, the total rate is 6 per cent, and the real rate of return approximately 3 per cent (actually it would equal (1.06/1.03 - 1) or 2.9126 per cent in this example). It can be seen that the separate funds for "basic" and "indexed" benefits will work out to a balanced (zero) position if we set aside $971.23 in the "basic" portion and $230.15 in the "indexed" portion. Instead of using separate funds, we could have put the total amount ($1,201.38) in one fund, paid the combined "basic" and "indexed" portions from this fund and still have achieved a balanced (zero) position at the end of 15 years.

What would have happened if the inflation rate had changed at some point throughout the 15-year period? Would the respective "basic" and "indexed" portions have been in a balanced position at the end of 15 years under such a scenario? And what about the combined fund approach?

Table 5 depicts what would have happened if, starting with the tenth year, inflation had moved from 3 per cent to 5 per cent, and if the total fund rate had been assumed to increase from 6 per cent to 8 per cent. (This would obviously apply only in the instance where assets could be sold without asset depreciation occurring and with such assets being reinvested at the higher current prevailing rate.)

Under these assumptions, it can be seen, on examining Table 5, that the additional excess interest earned on the "basic" fund assets must be applied toward the cost of the increased indexed benefits (due to inflation moving from 3 per cent to 5 per cent). Otherwise there would be a surplus in the "basic" fund and an equivalent deficit in the "indexed" fund. By combining the two funds, we end up with essentially a balanced (zero) position at the end of 15 years.

Although in practice the scenario depicted would never work out exactly as demonstrated, the basic principle outlined for developing a realistic cost for combining the "basic" and "indexed" benefits is accurate. It is evident from the examples that there is no feasible way to accurately establish a "fair" value for the dollars to be allocated to the "basic" and "indexed" portions when established as individual funds since the amount required to be deposited in each varies significantly depending on the inflation assumption used, and more importantly, on the actual inflation ultimately experienced. However, by packaging the "basic" and "indexed" portions into one fund, it is possible to arrive at a relatively stable cost for the packaged benefits as long as a handle can be put on the "real" rate of investment return. Under public sector pensions where the investment rate is entirely a function of the gross rates of return on 20-year and longer bonds of that government, it is possible to arrive at a "real" rate of return that should stand up over a long period of time.

Table 4
Progress of Fund Components

Beginning of year	Fund			Interest			Annuity payments		
	Basic	Indexed	Total	Basic	Indexed	Total	Basic	Indexed	Total
		(Dollars)			(Dollars)			(Dollars)	
0	971.23	230.15	1,201.38	58.27	13.81	72.08	100	3.00	103.00
1	929.50	240.96	1,170.46	55.77	14.45	70.23	100	6.09	106.09
2	885.27	249.33	1,134.60	53.12	14.96	68.08	100	9.27	109.27
3	838.39	255.02	1,093.41	50.30	15.30	65.60	100	12.55	112.55
4	788.69	257.77	1,046.46	47.32	15.47	62.79	100	15.93	115.93
5	736.01	257.31	993.32	44.16	15.44	59.60	100	19.41	119.41
6	680.17	253.34	933.51	40.81	15.20	56.01	100	22.99	122.99
7	620.98	245.55	866.53	37.26	14.73	51.99	100	26.68	126.68
8	558.24	233.60	791.84	33.49	14.02	47.51	100	30.48	130.48
9	491.73	217.14	708.87	29.50	13.03	42.53	100	34.39	134.39
10	421.23	195.78	617.01	25.27	11.75	37.02	100	38.42	138.42
11	346.50	169.11	515.61	20.79	10.15	30.94	100	42.58	142.58
12	267.29	136.68	403.97	16.04	8.20	24.24	100	46.85	146.85
13	183.33	98.03	281.36	11.00	5.88	16.88	100	51.26	151.26
14	94.33	52.65	146.98	5.67	3.15	8.82	100	55.80	155.80
15	-	-	-	-	-	-	-	-	-

Assumptions
1. \$100 annuity payable annually in arrears.
2. Inflation rate = 3 per cent.
3. Total rate = 6 per cent.
4. "Real" rate = 2.9126 per cent = (1.06/1.03 - 1).

Table 5
Comparison of Fund Progress in Tenth and Later Years

Beginning of year	Fund			Interest			Annuity payments		
	Basic	Indexed	Total	Basic	Indexed	Total	Basic	Indexed	Total
		(Dollars)			(Dollars)			(Dollars)	
A. Fund assumed to earn 6 per cent with inflation at 3 per cent									
10	421.23	195.78	617.01	25.27	11.75	37.02	100	38.42	138.42
11	346.50	169.11	515.61	20.79	10.15	30.94	100	42.58	142.58
12	267.29	136.68	403.97	16.04	8.20	24.24	100	46.85	146.85
13	183.33	98.03	281.36	11.00	5.88	16.88	100	51.26	151.26
14	94.33	52.65	146.98	5.67	3.15	8.82	100	55.80	155.80
15	-	-	-	-	-	-	-	-	-
B. Fund assumed to earn 8 per cent in tenth year and later with inflation moving to 5 per cent									
10	421.23	195.78	617.01	33.70	15.66	49.36	100	41.03	141.03
11	354.93	170.41	525.34	28.39	13.63	42.03	100	48.00	148.00
12	283.32	136.04	419.37	22.67	10.88	35.55	100	55.31	155.31
13	205.99	91.61	297.61	16.48	7.33	23.81	100	62.98	162.98
14	122.47	35.96	158.44	9.80	2.88	12.67	100	71.03	171.03
15	32.27	-32.19	.08	-	-	-	-	-	-
C. Excess of item B over item A									
10	-	-	-	8.43	3.91	12.34	-	2.61	2.61
11	8.43	1.30	9.73	7.60	3.48	11.09	-	5.42	5.42
12	16.03	- .64	15.39	6.63	2.68	9.31	-	8.46	8.46
13	22.06	- 6.58	15.48	5.48	1.45	6.93	-	11.72	11.72
14	28.14	-16.69	11.45	4.13	- .27	3.85	-	15.23	15.23
15	32.27	-32.19	.08	-	-	-	-	-	-

Assumptions
1. Same as for Table 4 during first 9 years.
2. In tenth and later years, it is assumed fund can be reinvested at an 8 per cent rate and that inflation moves to 5 per cent.

CURRENT FUNDING OF PUBLIC SECTOR PENSION PLANS

The Benefits Policy Branch of the Civil Service Commission of the Province of Ontario, in its submission to the Commission dated December 13, 1977, registered concerns about the variation in the costs derived for the PSPPs. They noted that the costs were developed by five different consultants using different actuarial assumptions and funding methods. The guidelines reviewed previously in this study were developed as a first step toward standardizing the costing of fringe benefits in the public sector. They were not conceived as being satisfactory for the purpose of making comparisons with the private sector.

In this section of the report we will demonstrate that there are a number of reasons why the costs of PSPPs under review should be different even with the benefit of the guidelines established in November 1976. We will examine in this section the reasons for the differences, including the choice of funding method, and critique the most recent PSPP valuations.

Why PSPP Costs Vary

The following summarizes the reasons for the different cost levels between the PSPPs:

Benefit Provisions

Included under this heading are such items as:

- Employee contributions;
- Type of plan (final pay, career average, flat dollar, money-purchase);
- Eligibility for unreduced pensions;
- Averaging period for final earnings and YMPE;
- Normal form of pension;
- Availability of indexing and the extent to which full indexing is provided and the degree to which indexing is being funded;
- Vesting formula;
- Early retirement subsidies and supplements;
- Maximum service accruals;
- Maximum pension limitations;

- Availability of ancillary benefits such as death and disability benefits.

The major provisions of the PSPPs are contained in Appendix A, Section A. The critical differences can be summarized as follows:

- The degree to which unreduced pensions are made available;

- Prior service, in part, based on career average instead of final average formula (OMERS and HOOPP);

- Period for averaging final pay (5 or 7 years) and the YMPE (1,3, or 5 years);

- Integration formula offset (either .7 per cent or .625 per cent, depending on the plan);

- Automatic indexing at 100 per cent level (maximum annual 8 per cent adjustment) versus ad hoc adjustments at about one-half of this level;

- Vesting which varies from immediate to 10 years.

Work-force Characteristics

An examination of Section B of Appendix A outlines the essential characteristics of the work-force of each of the PSPPs. There are significant differences in the sex mix between the various work-forces with close parallels occurring between the PSSF and OMERS, and the TSF and WCB. Hydro and HOOPP are at opposite ends of the scale. The average age, average service, and average entry age also vary somewhat with the ranges being as follows:

	Range
Average age	34-41
Average service (years)	7-9
Average age at hire	25-34

The key variant under an entry age level premium valuation, other than the actuarial assumptions themselves, is the entry age, whereas under the projected unit credit method, the average age is the critical factor. It is evident from the comparison of the average ages at hire that current service costs have to vary from group to group, even when all other factors such as plan provisions, sex mix, and salary levels are identical.

Salary levels also have a bearing on cost levels, and as can be seen from Appendix A, there are some variations in pay levels from group to group, although some of this is due to different valuation dates (see line 1, Section D of Appendix A for valuation dates.)

Lastly, the degree to which benefits have previously been funded for those in receipt of benefits also has a bearing on the cost level of the plan. The extent to which indexing costs have not been funded heretofore has an obvious impact on current amortization payment levels. The PSSF and Hydro have the highest beneficiary/worker ratio at 20 per cent, while the TSF and OMERS are the lowest at 11 per cent. HOOPP and WCB are at the 15-16 per cent level.

Actuarial Method

The entry age and projected unit credit methods are the ones used for the funding of the PSPPs. In the past, OMERS used the unprojected unit credit method for the career average plan. We understand that they are now using the projected unit credit method for the final average plan, but with a minimum total contribution equal to the plan's defined employee and employer contributions.

It is unlikely that there would be any significant change in current service cost for all PSPPs, except for the TSF, if the entry age or the projected unit credit methods are utilized. Because of the low average age (34 years) for the TSF, the current service cost would decrease from present levels. However, due to the cutback in the growth of the teaching profession, it is highly likely that the average age will increase significantly over the next few years. In the interest of maintaining relatively stable costs, the entry age funding method should probably remain in place.

On the other hand, the actuarial liability for the entry age method will always be greater than for the projected unit credit method with commensurately higher amortization payments. Consequently, total costs under the entry age method for the various PSPPs must be greater than for the projected unit credit method, notwithstanding their current age/service/sex characteristics.

It should also be noted, as explained in the Financial Executive article referred to earlier, that the level of unfunded actuarial liability has no meaningful significance to the funded status of a pension plan. It is the relationship of the assets to the accrued liability that is critical. Although the ongoing valuation unfunded actuarial liability of the TSF appears enormous, the funded status based on its wind-up or accrued liability is about the same as for the PSSF (86 per cent for the TSF versus 85 per cent for the PSSF). The WCB plan, on the other hand, is excessively funded (134 per cent) when assets are compared with its accrued liability. One has to question the desirability of pumping more employer contributions into this plan.

Actuarial Assumptions

The actuarial assumptions adopted for valuation purposes must vary from employee group to employee group in order to reflect as closely as

possible the experience expected to emerge. Otherwise, the cost levels developed will prove to be either overly adequate or inadequate. If the former, surplus funds will be generated, while if the latter, the plan eventually will require additional funds to overcome the deficiencies that are bound to develop.

Detailed experience analyses have been undertaken for the recent valuations of the PSSF and the TSSF. The turnover and retirement rates experienced for each of these plans are quite different, with expected lower turnover in the teacher ranks, but significantly higher utilization of early retirement. Both of these factors lead to higher costs under the TSF as compared to the PSSF.

Even with the use of realistic assumptions for salary increases over the long term, there are bound to be aberrations over the short term that will lead to salary losses. These have been accentuated in recent years under the TSF and HOOPP as the result of "catch-up" salary adjustments which have had the effect of increasing the actuarial liabilities of these plans immeasurably.

Other actuarial assumptions also vary from employee group to employee group - for example, disability and mortality rates - although for employee groups as large as these there should be no major differences over an extended period of years.

Investment Performances

Variations in actual investment performance from anticipated results can have a significant impact on costs. The basis upon which the PSPPs are established places the onus for absorbing gains or losses in the hands of the employer. Assuming the continuation of the use of government debentures, or the equivalent investment rate of return on such debentures in the case of the PSSF, there should be a good chance of defining fairly precisely the "real" rate of return for the PSSF and TSF. The rates of return on the remaining PSPP funds should be higher over the longer term, reflecting the greater rates of return available on other forms of securities. However, this may not prove out over the short term, and possibly even the longer term. Poor investment performance results could occur, thereby resulting in higher overall employer pension costs than would have been the case if the assets had been invested 100 per cent in government debentures.

In summary, there are a number of reasons why the costs of pensions for the six public sector pension plans should vary. Even if identical pension provisions existed, consistent investment performance occurred, and the same funding method was used, there would still be differences in cost levels as the result of different work-force characteristics and the fact that actuarial assumptions for turnover and retirement utilization, to name only two, will probably vary from employee group to employee group.

The only satisfactory way of comparing the cost of both public and private sector pension plan benefits is to adopt the approach outlined on page 18 of the Civil Service Commission's submission to the Commission in which reference is made to a 1974 State of California approach to this problem. Their approach attempts to establish the cost of employer benefits by assuming that the employer interested in comparing his benefit programs with other competitor organizations adopts the benefit plans of the comparison organizations. These benefits are then priced using the age, sex, salary, and other demographic characteristics of that employer's work-force. As well, a consistent set of actuarial assumptions and funding techniques are used to develop the costs of the benefits. This is a highly sophisticated and expensive technique for comparing benefit costs.

Critique of Most Recent PSPP Valuations

The following comments are offered regarding the valuations of the various PSPP plans. These comments are offered in response to the overall terms of reference for this study which requested us to determine whether the actuarial costs and liabilities of the plan were "true" and the funding methods suitable. In this connection it should be recognized that the actuaries have far greater insight into the past experience of each plan than we could possibly acquire at a distance. This, therefore, places them in a much better position to make better judgments as to the assumptions that together will best measure the future outcome of events under each plan.

PSSF Valuation - December 31, 1976

This valuation was developed using actuarial assumptions based on current experience. The interest rate used was also developed conservatively, having been set at 7.25 per cent (the fund was currently earning 7.56 per cent).

Recognizing the points made previously in this study on real growth in wages, there is probably some need to review the adequacy of the real growth in wages used in the PSSF valuation where it appears that merit/promotional increases were introduced but very little, if anything, was included in the salary scale assumption for productivity. We noted earlier that real wages, exclusive of merit and promotion, have been on a 2.1 per cent annual trend line over the past 50 years.

We also discovered that provincial long-term bonds have generated a 2.45 per cent real rate of return with a 1.60 per cent net rate after a risk factor is applied. The PSSF valuation used a 1.75 per cent real rate (see Section D of Appendix B) which is conservative by about .7 per cent of 1 per cent, recognizing there is no risk involved. This conservatism will offset part of the shortfall in productivity that may not have been reflected adequately in the salary scale. Combining this .7 of 1 per cent with the .3 of 1 per cent conservatism in the interest

rate yields a gain of 1 per cent which is about 1.1 per cent short of the 2.1 per cent trend in growth in real wages (productivity).

Notwithstanding this concern, and although the costs developed may be somewhat understated, the critical concern should be that the accrued liabilities are covered by the assets of the plan. Currently the funded status is 86 per cent. Earlier comments about developing a funding basis that will generate a current service cost that matches the level of employee contributions may have been a contributing factor in the decision to adopt the particular economic assumptions used. In fact, the employer current service cost developed was 6.06 per cent as compared with the 6 per cent employee contribution rate. To have utilized a higher salary scale assumption would have increased the employer cost significantly.

To summarize, the valuation cost basis is probably slightly understated for the reasons mentioned. A move to the projected unit credit funding method using realistic assumptions, however, would probably generate a total employer cost close to that developed in the December 31, 1976 PSSF valuation. Consequently, there is little reason to question the reliability of the numbers developed. What should be explored is the desirability of continuing the practice of developing an employer current service contribution that matches the employees' current service contribution. Also, the inclusion of the funding of indexed pensions with the basic plan benefits should be considered in the future.

TSF Valuation - December 31, 1975

The comments on this valuation are very similar to the ones made for the PSSF. Real investment rates of return used were 3 per cent versus an expected norm of 2.45 per cent, a potential of .55 of 1 per cent overstatement in real rates of return. Real wages have been established at 1.5 per cent which is below the 2.1 per cent productivity trend line. There appears to be nothing included for merit/promotional increases which may not be too significant for teachers. The current investment yield is 7.5 per cent versus the 7 per cent interest rate, which provides a current cushion of .5 of 1 per cent. Overall, there appears to be a shortfall of almost 1 per cent, approximately the same as for the PSSF valuation. It is interesting to note that the TSF matching contribution rate is 6.4 per cent versus 6.06 per cent for the PSSF. Adjusting for the shortfall mentioned above would increase this 6.4 per cent contribution rate considerably.

A move to the projected unit credit method would help substantially due to the very young average age of the teacher group. Because of this, it can be assumed the overall funding of the TSF is adequate. Again, the cost-sharing principle appears to loom as a contributing factor in the actuarial assumption decision-making process.

OMERS - January 1, 1977

This valuation which we reviewed was based on the career average plan. It is conservatively done. With unprojected unit credit funding and a 6 per cent interest rate (versus a fund earning 8.9 per cent), there is little doubt about this even if the actuarial assumptions may not have been developed conservatively. The move to the investment of assets in marketable securities also enhances the opportunity for increasing the real rate of return on investments to a level closer to 3 per cent.

Discussions with the actuary for the OMERS plan produced the following information regarding the valuation, as of January 1, 1978, of the new final average plan.

Funding method	Unfunded actuarial liability	Total normal cost
	(Millions of dollars)	(Per cent)
Projected unit credit	115	9.92
Level cost method	197	12.20

The level cost method determines the actuarial liability by deducting from the present value of future benefits the present value of combined matching employee and employer contributions amounting to 12.2 per cent of payroll. The cost of amortizing $115 million over 15 years is at most .8 of 1 per cent of the approximate $1.5 billion payroll and when added to the projected unit credit cost of 9.92 per cent yields a total contribution of about 10.7 per cent of payroll. As this is less than the matching contribution of 12.2 per cent, OMERS will probably contribute the 12.2 per cent amount and nothing more.

The actuarial assumptions adopted for these projections were as follows:

	Per cent
Investment rate of return	6
Inflation	3
Salary increase rate	5
Productivity	1
Merit/promotion	1
Real rate of investment return	3

Recognizing the manner in which investments have been made and the exceptional performance achieved to date, the 3 per cent real rate is probably justified. However, the use of a 1 per cent productivity rate is low when compared with the 2.1 per cent trend line rate. Recognizing there is a cushion inherent in the 12.2 per cent contribution rate over the 10.7 per cent projected unit credit contribution rate of 1.5 per cent, it is fairly evident that the OMERS plan is being funded adequately. This is borne out further when it is recognized that the

plan is overfunded when the assets are compared against the accrued liability.

Over the longer term, however, it is also evident that funding the plan using the matching employee/employer contributions will lead to a funded position where the assets will always be greater than the accrued liability, a posture that we believe to be excessive, particularly for a government-sponsored pension plan.

HOOPP - December 31, 1976

This valuation appears to have been developed with actuarial assumptions that have not been based on any recent experience studies, with the exception of an analysis of turnover experience which indicates that the rates used are 75 per cent of the actual termination rates over the first seven years of operation of the plan.

The 5-1/2 per cent valuation interest rate is conservative as is the use of a 4 per cent level annual increase in the YMPE (versus 12-1/2 per cent through 1983 or 1984). If we assume that the 4 per cent increase rate in the YMPE reflects inflation and productivity, then the salary scale of 4-1/2 per cent includes 1/2 of 1 per cent for promotion and merit increases. If we also assume productivity of 2 per cent is included in the 4 per cent YMPE increase rate, then inflation has been set at 2 per cent. This then implies a 3-1/2 per cent real rate of investment return. This may be somewhat ambitious for the fund to earn but is certainly not unattainable.

Although there is not sufficient information provided to give a satisfactory overall assessment of the realism of the cost figures developed, it can be stated that overall the cost figures would appear to be conservative, particularly when ad hoc pensioner increases have never been granted and the inflation component in the interest rates earned on pensioner assets above the assumed 2 per cent rate will generate gains to the plan. An area where conservatism could be lacking is in the use of an average retirement age of 64. Experience could show that this is too high an age. Overall, however, the plan is well funded since, according to the plan's actuary, the assets exceed the accrued liability.

Hydro - December 31, 1976

An analysis of experience against the assumptions made since the last valuation (December 31, 1973) was included in this report. This is referred to as a gain and loss analysis which is an excellent tool for monitoring the actual experience of the plan against the various assumptions made. Changes were made in pertinent assumptions to adjust for changes in the plan as well as experience trends.

The only area of concern, once again, rests with the use of meaningful real growth in wages and real rates of investment return. The valuation assumed a 6 per cent interest rate (as compared to a most recent yield of 6.4 per cent) and a salary scale of 5-1/2 per cent. The differential between these two factors is 1/2 of 1 per cent and is the smallest of all the six plans under examination as shown below:

Plan	Excess of valuation interest rate over salary scale assumption
	(Per cent)
PSSF- males	.75
- females	1.15
TSF	1.5
HOOPP	1.0
Hydro	.5
WCB	1.5

Unfortunately, the increase in the YMPE has also been set at 5-1/2 per cent, the same as the salary scale rate. This is partially conservative because it ignores the 12-1/2 per cent increase in the YMPE through 1983 or 1984, but is probably too high for years thereafter since it should exclude the merit/promotional scale applicable at Hydro. Although this information and the inflation rate are unknown, the key favourable factor is the narrow gap between the interest rate and the salary scale. This plan, like HOOPP, is funded using the projected unit credit method which is not as conservative as the entry age method. Consequently, it is more important that the assumptions be as realistic as possible. On balance, there probably could be more conservatism in this valuation, although the resulting numbers are undoubtedly sufficient to meet the plan's promises. It would also appear, although the information was not available, that the assets would probably come close to the plan's accrued liability.

WCB - December 31, 1977

This valuation has been completed using economic assumptions identical to the TSF, as well as using the entry age funding method. Consequently, the comments are equally applicable to those for the TSF except that the real rate of return opportunity for this plan should exceed that for the TSF. Consequently, the 3 per cent expected real rate of return is probably a realistic goal. The fund earned 7.32 per cent in 1977 as compared with the assumed rate of 7 per cent.

Termination rates used were developed from an analysis of 1977 experience. No other experience studies were undertaken with prior year assumptions continuing to be used, except for the retirement assumption which was made more conservative by assuming 50 per cent of eligibles for the 60/20 and the age plus service = 90 formulae would retire at that point and the balance at age 65.

This valuation generated a surplus of $18,740,000 on an accrued liability basis and $13,024,000 on an ongoing valuation basis. The plan is definitely well funded and the current service contributions would probably be found to be conservative when compared with costs developed using the projected unit credit funding method and realistic actuarial assumptions.

General Assessment

Generally the PSPPs are being funded adequately. It should be recognized, however, that there are differences in the degree of funding ranging from those that are more conservatively funded due to the use of the entry age versus the projected unit credit method, those that have developed realistic economic assumptions encompassing real growth in wages and merit/promotion scales as well as reasonable real rates of investment return in relation to the types of assets being used, versus those where less realism has been reflected, and demographic assumptions that are in line with recent experience versus being best judgment factors.

SUMMARY OF FINDINGS

The findings of this study are as follows:

1. The six public sector pension plans are being funded relatively adequately, although there is a definite need to:

   - base decrement rates more closely to the results of current experience studies;

   - base economic assumptions on realistic assessments of real growth in wages, inflation, and merit/promotional scales, and real investment rates of return applicable to the types of securities in which the fund assets are invested;

   - wrap the funding of indexed benefits in with basic plan benefits, and reflect the funding of such benefits by using the real rate of return in the post-retirement area;

   - target the funding of the plans toward accrued liabilities, including the indexing of such benefits, (using the Ontario Pension Benefits Act Test Valuation basis as the standard) rather than toward ongoing liabilities;

   - move away from the concept of having the employer current service cost match as closely as possible employee contributions. Otherwise, the funding of public sector pension plans eventually will generate assets exceeding accrued liabilities.

- move the plans toward the use of a consistent funding method; namely the projected unit credit funding method prorated on service although consideration of the use of this method of prorating benefits on projected earnings might be more consistent with the concept of having public sector pension plans target their funding to accrued liabilities, including the cost of indexing accrued benefits. The use of the projected unit credit method prorated on earnings should probably only be used when the plan's assets equal the accrued liability.

2. Move the public sector plans toward the desirable goal of investing in real assets (marketable securities) versus public debt in order to:

   - ameliorate cash flow difficulties that could possibly emerge in the future;

   - provide a greater sense of security of benefits in the minds of the workers and beneficiaries of such plans;

   - lessen the possibility of internally generated funds being deployed toward nonproductive items or applied to cover general expenditures which should be more properly paid for out of current tax revenues;

   - have the potential for generating a higher level of investment return than might otherwise be the case where the fund is invested 100 per cent in government debt.

3. As a minimum, have the assets of the PSSF, PSSAF, and TSAF that are now earmarked for the Consolidated Revenue Fund handled in a similar manner to the assets of the TSF, i.e., invested in non-public government debentures. In this way, the total debt of the province could be established more easily than at present (the PSSF, PSSAF, TSAF, and the Province of Ontario Savings Office assets are currently classified as unfunded debt).

4. Establish the principle of undertaking periodic forecasts of cash flows to the various pension plans. For the PSSF and TSF (and possibly OMERS) also develop the cash flow of funds available to the province for investment purposes. This is a sound approach to the management of pension plan investment flows that provides as well an indication of the internal funds available for the government to invest.

5. Require that internal cost controls for pensions be established by requiring that the cost of pensions be incorporated in the budgets of governmental units, e.g., local school boards. This

is the only way that the recognition of the cost of pensions will be understood. The cost of indexation should also be included in local budgets.

6. Encourage the various public sector organizations to examine their pension programs to satisfy themselves that the benefit levels provided are not excessively beyond what could be called "adequacy" levels when measured in after-tax terms. Also encourage those plans now providing fully indexed pensions for retirements occurring prior to age 65 to provide less than full indexing in order to help discourage the excessive utilization of the earlier retirement provisions of the plans. Indexing at, say, a 50 per cent level might be beneficial in achieving this desired result.

7. Encourage the public sector to work with consulting organizations that have developed refined techniques for comparing the cost of pension programs in a meaningful manner so that direct comparisons can be made for the "real" employer costs of public and private sector pension and benefit programs. In this way, more direct comparisons can be made as to the "real" cost of total compensation programs to public and private sector employers.

Appendix A
Larger Public Sector Pension Plan Provisions, Work-force and Financial Characteristics, and Actuarial Methods and Assumptions

	PSSF	TSF	OMERS	HOOPP	HYDRO	WCB
A. Major Plan Provisions						
1. Employee contributions						
a) Basic plan	4.4% / 6%	4.4% / 6%	Retirement at: 65 5.5%/7% 60 6.5%/8% 55/30 6.5%/8% 50/30 7.5%/9%	4.5% / 6%	3.4375% / 5%	3.9% / 6% (Grades by age at entry for those who joined plan prior to 10/26/72)
b) Indexing	1%	1%	None	None	None	None
2. Eligibility for unreduced pensions	65/10 60/20 Age + service = 90	65/10 Age + service = 90	65 (Exceptions: supplementary plans with higher contributions	65 62/20	65 60/25 (Age 60 for females hired prior to 1/1/76)	65/10 60/20 Age + service = 90
3. Unit of pension						
a) Benefit accrual	2% x service	2% x service	2% x service	2% x service from 1/1/60 (career average plan prior to 1/1/60)	2% x service	2% x service
b) Earnings base for benefit accrual	Highest consecutive 5-year average	Highest consecutive 7-year average	Highest consecutive 5-year average	Highest consecutive 5-year average	Highest consecutive 5-year average	Highest 5 of last 10 years (highest 3-years for service prior to 1/1/66)

Appendix A
Larger Public Sector Pension Plan Provisions, Work-force and Financial Characteristics, and Actuarial Methods and Assumptions (continued)

	PSSF	TSF	OMERS	HOOPP	HYDRO	WCB
c) Integration with CPP (offset applies from age 65 only)	.7% x service from 1/1/66	.7% x service from 1/1/66	.7% x service from 1/1/66	.625% x service from 1/1/66	.625% x service from 1/1/66	.7% x service from 1/1/66
d) YMPE average used for integration offset	3 years	1 year	3 years	5 years	5 years	5 years
e) Maximum pension	70% less CPP offset	70% less CPP offset	70% less CPP offset	70% less CPP offset	70% less CPP offset	70% less CPP offset
f) Normal form of pension	50% continuation to survivors	50% continuation to survivors	50% continuation to spouse or eligible children, plus additional 10% for each eligible child	50% continuation to survivors	50% continuation to survivors	50% continuation to survivors
4. Vesting for retirement benefits	10 years	10 years	Immediate	10 years	1 year	10 years
5. Post-retirement adjustments						
a) Formula	1971-75 - ad hoc employer paid 1976 - automatic based on CPI with 8% annual ceiling (shared cost)	Same as for PSSF	Ad hoc adjustments/ employer-paid	None	1971-75 - ad hoc as for PSSF 1976 - as for PSSF but at half rate basis recognizing no employee contributions	Regular ad hoc adjustments/ employer-paid but at approximate half-rate basis

Appendix A
Larger Public Sector Pension Plan Provisions, Work-force and Financial Characteristics, and Actuarial Methods and Assumptions (continued)

	PSSF	TSF	OMERS	HOOPP	HYDRO	WCB
b) Percentage adjustments 1971-1978	46%	46%	38%	Nil	28%	20%
B. Work-force Characteristics						
1. Sex composition						
a) Male	63%	40%	68%	21%	86%	45%
b) Female	37%	60%	32%	79%	14%	55%
2. Average salary	$14,583	$15,060		$13,141	$18,825	$15,625
3. Average age	40	34	41	41	39	38
4. Average service(years)	8	9		7		8
5. Average entry age = (3) - (4)	32	25		34		30
6. Anticipated future annual growth in work-force	1%		4%	6%		?%
7. Percentage of beneficiaries to contributors	20%	11%	11%	15%	20%	16%

Appendix A
Larger Public Sector Pension Plan Provisions, Work-force and Financial Characteristics, and Actuarial Methods and Assumptions (continued)

	PSSF	TSF	OMERS	HOOPP	HYDRO	WCB
C. Financial Characteristics						
1. Range of total contributions 1965 to 1976 (exclusive of 1% indexing costs) as % of covered payroll	10.5%-13.2%	14.2%-25.2%	8.8% - 11.5%	9.8% - 14.1%	16.4% - 18.8% (ignores 10.0% rate in 1965)	
2. Most recent employer contribution as % of covered payroll	8.1%	12.7%	4.7%	7.2%	15.8%	113% of employee contributions
3. Benefits and refunds as a % of total contributions	44%	70%	13%	19%	25%	
4. Annual net cash flow to fund (1975 levels) in thousands	$137,924	$243,463	$165,666	$69,730	$78,535	
5. Annual net cash flow to province = net cash flow to fund less interest costs owing to fund on provincial investments and employer contributions to fund (thousands)						
a) 1975	$7,638	$-24,481	$28,924	--	--	--
b) 1974	4,445	-34,371	35,081	--	--	--

Appendix A
Larger Public Sector Pension Plan Provisions, Work-force and Financial Characteristics, and Actuarial Methods and Assumptions (continued)

	PSSF	TSF	OMERS	HOOPP	HYDRO	WCB
c) 1973	144	44,352	38,010	--	--	--
6. Fund yield (year)	7.6% (76/77)	7.5% (1976)	8.9% (1976)	5.9% (1976)	6.4% (1976)	7.3% (1977)
7. Unfunded actuarial liability (surplus) @ most recent valuation date ($ thousands)						
a) On-going basis	$505,355	$1,397,178	$(110,632)	$122,133	$142,530	($13,024)
b) Wind-up basis(a)	214,426	375,190	N/A	N/A	N/A	(18,740)
c) Funded ratio on basis of wind-up(a) calculations	86%	85%	more than 100%	more than 100%	Probably about 100%	134%
D. Actuarial Method and Assumptions						
1. Valuation date	Dec. 31,1976	Dec. 31,1976	Jan. 1, 1977	Dec. 31, 1976	Dec. 31, 1976	Dec. 31, 1977
2. Actuarial funding method	Entry age	Entry age	Unprojected unit credit (career average plan)	Projected unit credit	Projected unit credit	Entry age
3. Interest rate	7.25%	7.00%	6.00%	5.50%	6.00%	7.00%
4. Inflation rate	5.50%	4.00%	N/A	Not stated	Not stated	4.00%

Appendix A
Larger Public Sector Pension Plan Provisions, Work-force and Financial Characteristics, and Actuarial Methods and Assumptions (concluded)

	PSSF	TSF	OMERS	HOOPP	HYDRO	WCB
5. Salary scale (includes inflation, merit, promotion and productivity)	6.5% males 6.1% females (assumes 30 years' service	5.5%	N/A	4.5%	5.5%	5.5%
6. Real growth rates						
a) Interest = D(3) - D(4)	1.75%	3%	N/A			3%
b) Wages = D(5) - D(4)	1% males .6% females	1.5%	N/A			1.5%
7. Growth in YMPE	12.5% to 1984, 6.5% thereafter	12.5% to 1983, 5.5% thereafter	N/A	4% per annum	5.50% per annum	12.5% to 1981, 5.5% therafter
8. Average retirement age	Retirement rates varying by sex and attained age	Retirement rates varying by sex and attained age	Normal retirement age	64	62 males 60 females	50% retire @ 60/20 or 90 points, balance @ 65
9. Asset valuation method						
a) Bonds and mortgages	Discounted at valuation interest rate	Discounted at valuation interest rate	Book value	Book value	Discounted at valuation interest rate	Discounted at valuation interest rate
b) Equities	N/A	N/A	Book value	Book value	4-year market value average	Market value
c) Real estate	N/A	N/A	Book value	N/A	Book value	N/A

a Accrued actuarial liability basis.

Appendix B - Guidelines for the Valuation of Pension Plans Relating to the Ontario Public Sector (June, 1980)

CONTENTS

GUIDELINES FOR THE VALUATION OF PENSION PLANS RELATING TO THE ONTARIO PUBLIC SECTOR

Background

Increasingly large pension liabilities have focussed attention on the need for timely and consistent information regarding pension plans in the Ontario public sector.

This information is required in order to:

1. provide management board with a consistent basis for the determination of public sector pension liabilities in order to assess expenditure requirements for each fiscal year and to aid in optimal budget management;

2. permit comparability between benefits and benefit costs across the public sector and with private sector plans;

3. allow more accurate estimates of pension contributions, benefits payable and special payments for the optimal management of provincial cash flows;

4. estimate the future availability of funds for provincial financing purposes;

5. assure the availability of accurate data on future pension liabilities in order to satisfy the disclosure requirements for external financing, and to maintain the financial integrity of the province.

NOTE: The above objectives do not apply equally to the five major pension plans. The first and the third exclude the Hydro Pension Plan, and the fourth excludes the Hospitals of Ontario Pension Plan.

Approach

A study group composed of representatives of the Benefits Policy Branch (CSC) and the Taxation and Fiscal Policy and Finance Management Branches (TEIA) developed the broad outlines of a standard approach to the valuation of pension plans in the Ontario public sector which would meet the information needs outlined above.

This approach was discussed with the administrators and actuaries of the Public Service Superannuation Fund, the Teachers' Superannuation Fund, the Ontario Municipal Employees Retirement System, the Hospitals of Ontario Pension Plans, and the Hydro Pension Plan.

The actuaries associated with each of these plans undertook to make written recommendations which would be submitted to the study group through the plan administrator.

The guidelines detailed below are based on these recommendations as well as the discussions held with the administrators and actuaries.

PROPOSED GUIDELINES

These guidelines do not attempt to establish the basis for the triennial pension plan valuation required under the provisions of the Ontario Pension Benefits Act.

They are intended to provide the basis for a common approach to the valuation of pension plans related to the Ontario public sector.

Statement of Plan Operations

It is recommended that each valuation report should contain the following:

1. A summary of the plan provisions. This summary should cover the main provisions of the plan only.

2. Mention of changes in plan benefits since the last report.

3. A description of broad investment objectives of the fund.

4. A description of financing which would include the special payments expressed as a percentage of salary.

5. Number of contributors and related payroll shown by age, sex, and service group. The service groups should be 0-4 years, 5-9, 10-14, 15-19, 20-24, 25-29, 30-34, 35 and over.

6. An analysis of major changes in the population profile since the last report.

7. Number of beneficiaries shown by type, age, and sex. Types include annuities or allowances payable to retirees, deferred annuitants, survivors, and disabled lives.

Actuarial Method

A projected benefit method should be used in the valuation. Actuarial liabilities associated with the accrued service and total service should be shown separately. The actuarial liability for accrued service should take the projection of salaries into account for those plans with a final average formula.

Under the projected benefit method, levels of benefit are projected for both future salary and future service. In addition, account is taken of future contributions under the plan. The levels of contributiions will vary by plan, since in some plans the employer portion is defined in terms of the employee contribution, and in others the employer contribution is more flexibile. The valuation should take these differences into account.

It would be helpful to have the value of benefits to be earned in respect of service in the year following the date of valuation. This calculation would be based on existing members and projected salaries.

Demographic Assumptions

These assumptions should reflect the characteristics of each particular plan where sufficient data are available. In many cases, it will not be possible for actual plan experience to be used because of the statistical significance of the data. In the event that a standard table is used, the standard should be identified and reasons given for its use. The particular demographic assumptions are listed below:

1. Rates of mortality for active lives, retirees, survivors, and the disabled if relevant.

2. Rates of withdrawal specified by sex, age, and years of service. The selected period could be as long as five years if appropriate. The rates will reflect terminations in which the benefit is either a return of contributions or a deferred annuity.

3. Rate of retirement to be applied to a participant who terminates and who is eligible to take a monthly income, reduced or unreduced. Because most of the plans have complex rules for retirement with an unreduced pension, these special provisions should be considered in the rates. Consequently, rates should be established for each age and sex by years of service at relevant ages and service durations.

4. Rates of disablement should be appropriate to the experience of the plan.

5. Proportion of the population married and the relationship of the husband's age to the wife's age, where available.

6. Rates on remarriage where applicable.

7. Proportion of termination employees electing vested pensions. This assumption could be covered under items (2) and (3).

Economic Assumptions

These assumptions should reflect the characteristics of the fund but a common set of principles should be used in determining the economic assumptions. An overriding consideration should be that these assumptions be realistic for the long term.

1. Rates of salary increases due to promotion, seniority, and productivity.

2. Rate of inflation (or general salary increases) should be reflected separately from item (1).

3. The interest assumption should reflect realistic estimates of the actual expected rates of return year by year in the long run.

   It would be helpful (where the plan's systems permit) to establish for each year of the initial 10-year period the rate of interest on a best-estimate basis, reflecting the yields on existing investments and the prospective yields for new investments, as well as allowing for any expected changes in investment philosophy. A single rate approximating the year by year rates in the initial 10-year period would also be acceptable, but an explanation of how the substitute rate was developed would be necessary. For the period subsequent to the initial 10-year period, a reasonable long-term interest assumption should be employed.

   Alternatively, where the plan's systems do not permit the refinement outlined above, a single rate which would provide similar results could be used. However, if a single rate is chosen, the report should outline the method used to establish the single rate.

4. The growth rate in the Year's Maximum Pensionable Earnings under the CPP should follow the terms set out in the CPP Act. For the period after which specified increases are not set out in the act, an assumption appropriate to the general inflationary conditions should be used.

Valuation Balance Sheet and Related Information

Assets

The invested assets should be presented with an attached exhibit showing each asset in the portfolio at both book and market value as well as nominal rate of return on both book and market. In the event that the assets are carried to the balance sheet at a value other than book or market, a description of the method used to establish the actu-

arial value along with reasons for using that method should be presented. Any capitalized interest should be identified.

In addition to the invested assets, the present value of future contributions from employees and future contributions from employers (where specified in the plan) should be stated. The amount of the statutory unfunded liability (under the Ontario Pension Benefits Act) should be shown as well, where applicable. Any balancing item as a result of this valuation should be identified. A breakdown of the required payments associated with the statutory unfunded liability should be included in a footnote.

Any surpluses which are used to write down experience deficiencies should be identified and included in the balance sheet.

Liabilities

The actuarial liabilities should be set out showing the portion of liability associated with active members allocated by sex showing accrued and total service separately.

If possible, it would be appropriate to allocate the active life liability to the various sources of benefits, i.e., withdrawal, disability, death, and retirement.

Liabilities associated with pensions in pay should be allocated by sex showing retirement, disability, and survivors' benefits separately.

Other Items

In addition to the items mentioned above, the present value of 1 per cent of payroll with projections over the future lifetime of the membership should be shown for males and females separately as a footnote to the balance sheet.

Cash Flow Analysis

A cash flow forecast should be provided for 10 years. This forecast should provide the information contained in the sample layout in Table 1 below. Except for the economic assumptions shown below, the assumptions used in the cash flow analysis should be the same as those used for the valuation.

1. Rates of salary increases due to promotion, seniority, and productivity should be established to reflect the increments that could be expected on a best estimate basis in the future.

2. Rates of inflation (or general salary increase). It is suggested that the inflation assumptions parallel or at least be related to the interest assumptions discussed below.

3. Interest assumptions should reflect realistic estimates of the actual expected rates of return for the next 10 years. The rate of interest should be established for each year of the period on a best estimate basis reflecting not only the yields on existing investments, but the prospective yields for new investments, as well as allowing for any expected changes in investment philosophy.

4. The growth rates in the Year's Maximum Pensionable Earnings under the CPP should follow the terms set out in the CPP Act. For the period after which specified increases are not set out in the act, an assumption appropriate to the general inflationary conditions should be used.

It will also be necessary to introduce a stream of new entrants to the plan. This new-entrant population should be realistic and related to the expected employment climate. A profile of the new members should be provided.

It would be helpful to have estimates at three-year intervals from the last Ontario Pension Benefits Act triennial valuation of possible changes in unfunded liability payments such as experience deficiencies. This could require valuations at intervals throughout the cash flow period using the cash flow projections of population characteristics and the valuation basis that would be used for the reports sent to the Pension Commission of Ontario.

Timing

Valuation dates as well as plan year-ends should be December 31 of each year.

The actuarial valuation should be updated annually. It would be necessary to have a detailed re-examination of the demographic assumptions only for the years in which a regular triennial valuation is due.

Four copies of the Annual Valuation should be forwarded to the Pension Coordinator, Civil Service Commission within fourteen months from the date of the year end. He will ensure that copies are made available to the Taxation and Fiscal Policy and Finance Policy Branches of the Ministry of Treasury, Economics and Intergovernmental Affairs.

Table 1
Cash Flow Analysis of the _______________ Fund

	Revenues					Disbursements				
	Contributions		Investment income	Special payments(a) (deficiency) total	Total inflow	Benefits paid	Refunds	Adminstrative costs	Total outflows	Net cash flow
	Employer	Employee								
1977										
1978										
1979										
1980										
1981										
1982										
1983										
1984										
1985										
1986										
1987										

a Footnotes:

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Initial unfunded liability											
Unfunded liability due to amendments											
Experience deficiency											
Total											

Appendix C - Canadian Institute of Actuaries: Recommendations for Valuations of Pension Plans (June 8, 1980)

CONTENTS

PART 1 - INTRODUCTION

The Council of the Canadian Institute of Actuaries has approved the following recommendations for conduct of a member (hereinafter called "actuary") performing pension plan valuations.

1.01 Types of plans covered. Except where otherwise specifically excluded below, all pension plans, including plans sponsored directly or indirectly by government or government bodies as employers of public servants, are covered by these recommendations.

The following exclusions apply:

- Plans of the "defined contributions" type. However, the type of plan variously referred to as "modified money purchase" or "target benefit" or "floor plan" falls within the scope of these recommendations.

- Plans under which all benefits and all contingencies with respect thereto are underwritten and guaranteed by a company licensed to conduct annuity business in Canada. In all other cases where actuarial values are being calculated for benefits under an insurance contract, these recommendations will apply.

- Social security programs, such as the Canada Pension Plan, the Quebec Pension Plan, or the Old Age Security benefits. If, however, an actuary is called upon to value the benefits under one of these plans, he should be guided by the principles underlying these recommendations to the extent applicable.

1.02 Changes. These recommendations reflect the present state of actuarial and pension practice. The institute's policy is to change the recommendations from time to time to take account of advances in actuarial science and the evolution and the changes in the environment of pension practice. To that end, the Pension Standards Committee shall actively seek changes in the recommendations and propose them to council.

1.03 Approximations. In certain situations it may not be practicable for the actuary to carry out a valuation in as rigorous a manner as he would ideally like. In such circumstances he may make appropriate approximations provided they do not materially affect the results. He should satisfy himself that such approximations do not infringe on the general requirements of these recommendations.

1.04 Materiality. A difference is material if it is significant to a user of the valuation report. The actuary should choose a standard of materiality which will reasonably satisfy each normal user of the valuation report.

1.05 Documentation. The actuary may be called upon to justify his work. He should therefore be prepared to provide documentation supporting the rationale for his decisions in the context of these recommendations.

PART 2 - DATA

2.01 Obtaining data. The actuary should provide suitable instructions to the employer or to the source providing the data so that when received they will be sufficient and reliable for the purposes of the valuation. The actuary should obtain confirmation from his source of data that they are complete and accurate or a description of the extent to which they are not.

2.02 Establishment of check procedures. The actuary should establish suitable check procedures to test the validity of the data which form the basis for the valuation of assets and liabilities.

2.03 Plan provisions. The actuary should obtain plan documents and other information to determine the plan provisions sufficiently accurate for the purpose of the valuation. The valuation should be based on the current plan provisions except when the valuation is to include the financial effect of proposed plan changes. A brief summary of the provisions, as valued, should be included in the valuation report.

2.04 Disclosure of data source and checks. The actuary's valuation report should mention the date as of which the data were compiled, the sources of the data, any assumptions made with respect to unavailable information and should state that tests of validity, deemed suitable by him, were carried out. A summary of the statistics pertaining to the group, broken down according to significant categories should also be included in the valuation report.

PART 3 - ACTUARIAL ASSUMPTIONS

3.01 Appropriateness. The actuarial assumptions selected should reflect the actuary's judgment of future events affecting the related actuarial value. They should take into account the actual experience of the covered group to the extent that

information is available and applicable, but in recognition of the nature of a pension plan, they should also reflect expected long-term trends rather than give undue weight to recent past experience. The actuary may take into account general or specific information available from other sources, including the plan sponsor, plan administrator, investment managers, accountants, and economists.

3.02 Relationship between assumptions. The actuary should give independent consideration to the reasonableness of each actuarial assumption. He should ensure that the assumptions used by him are, as a whole, consistent and reasonable. Bearing in mind the interrelationship of the actuarial assumptions, the actuary may wish to use one or more assumptions that he does not consider independently reasonable. In such a case, the actuary may make compensating adjustments in related assumptions, to generate results which are similar to those which would follow from a set of assumptions, each of which is independently reasonable. The actuary should disclose the nature of the compensating adjustments in the valuation report.

3.03 Selecting assumptions. The actuary should make an assumption about every contingency occurring after the valuation date which materially affects the valuation results. This includes a conscious decision to ignore a given contingency where this is appropriate.

The following list, which is not exhaustive, includes typical factors about which assumptions may be necessary.

a) Economic assumptions

- (i) investment return
- (ii) salary increases
- (iii) development of government plans
- (iv) post-retirement pension adjustments

b) Decremental assumptions

- (i) incidence of normal, early and deferred retirement
- (ii) disability and disability recovery
- (iii) voluntary and involuntary termination
- (iv) mortality, before and after retirement or disability

c) Other assumptions

- (i) family composition

(ii) marriage: marital status at termination, death, retirement; age differences between spouses; remarriage and divorce rates
(iii) the level of administrative expenses
(iv) election of optional forms of benefits
(v) number of hours worked by hourly-paid employees
(vi) the current composition base upon which the salary increases are to apply
(vii) future new entrants to the plan

In the choice of economic factors the actuary should have regard to their interrelationship, as demonstrated by past experience as well as by economic theories. For example, one approach is to assume that the economic factors may be broken down into their basic components as in the model shown in the appendix.

3.04 Plan changes. The actuary should give careful consideration to any change in plan design which may significantly alter the level and trend of expected future experience.

3.05 Disclosure of assumptions. The valuation report should contain a description of the assumptions that were used in the valuation. If an assumption has not been made about a contingency which could materially affect the valuation, the description should include a reference to such contingency. In the report the actuary should disclose any changes made to the assumptions since the last valuation and should indicate the effect of the changes.

PART 4 - ACTUARIAL METHODS

4.01 Choosing the method. The choice of the actuarial method to be used for a valuation will depend on the purpose and circumstances of the valuation. Such purposes may encompass:

- the funding of the plan for the purpose of setting aside assets to provide for the benefits in advance of their actual payment;

- the accounting for the costs of the plan for the purpose of properly allocating the costs between succeeding generations. This represents the costs to be charged against the current operations of the plan sponsor;

- the allocation or distribution of assets of the plan on plan wind-up, company merger, or spinoff;

- the <u>determination of the value of benefits</u> under the plan. This may be required for the purpose of comparison of compensation packages.

4.02 <u>Funding of the plan</u>

a) <u>Selection of the actuarial method for funding</u>. One of the fundamental purposes of funding is to provide security of benefits provided under the terms of the plan with respect to service that has already been rendered, without further recourse to the assets of the plan sponsor. In formulating his recommendations as to:

- the choice of the actuarial method for funding and

- the resulting level of funding,

the actuary should bear this fundamental purpose in mind in the interests of all plan participants. This would normally entail projection of salaries through to retirement in the case of a final or best average pay plan and a projection of post-retirement adjustments in a plan which contains a specific provision for post-retirement adjustment of pension.

The other factors which will influence the actuary's recommendations include the following:

- the value of benefits provided;

- the desired stability of future contribution levels;

- the future expansion/contraction plans of the employer;

- collective bargaining considerations;

- possible future plan changes;

- the future cash flow requirements of the plan and of the employer;

- alternative uses of money;

- tax considerations;

- specific statutory requirements;

- the profile of the current plan membership and likely future changes.

If his valuation reveals a shortfall or excess of the value of the assets, the actuary should recommend an appropriate period for the amortization of such shortfall or excess.

b) Effect of the selected method(s)

The actuary should explain to the plan sponsor the effect of the selected funding method(s) on the security of benefits and the stability and level of future contribution rates. The actuary should, in appropriate circumstances, explain the possible consequences of deficient or excessive funding.

If the actuarial method used for funding is not appropriate for the accrual of pension costs as described in Section 4.04, the actuary should disclose this in his report, so that proper provision can be made in the accounts of the plan sponsor, notwithstanding the pace of funding selected.

4.03 Accounting for the costs. Accounting practices require that the costs of the plan be charged to the current operations of the plan sponsor in a manner that will ensure a reasonable and consistent allocation of costs between succeeding years of operations of the plan sponsor. Thus, the costs will be distributed equitably between generations of shareholders, taxpayers, owners, etc., as applicable.

When calculating costs for accrual purposes, the actuary should use an actuarial method which, consistent with accounting practices, provides for the allocation of costs in a gradual manner over the working lifetimes of the plan membership. Two examples of the implication of this requirement are given below:

a) In a final or best average pay plan, salaries should be projected through to retirement.

b) In a plan which contains a specific provision for post-retirement adjustment of pension, a projection of such adjustment should also be made.

Other cases should be dealt with in a manner consistent with these examples.

4.04 Allocation or distribution of assets. In the case of plan wind-ups the actuarial valuation performed in order to determine the allocation of assets will normally entail:

- calculation of the actuarial value of the benefits accrued in accordance with the plan provisions as of the valuation date;

- if the assets are insufficient, allocation of priorities for the various benefits in accordance with the plan provisions, subject to any overriding legal requirements;

- if the assets are more than sufficient, the disposal of the surplus in accordance with the plan provisions, or in absence of specific plan provisions, in accordance with the instructions of the plan sponsor, subject to any overriding legal requirements.

When advising on the allocation of plan assets in the event of a plan reorganization or sale or purchase or reorganization of the plan sponsor, the actuary should pay particular attention to:

- the financial position of the plan as if it were being wound up, as well as on an ongoing basis;

- the equity of various employee groups;

- any agreement or understanding reached between the parties to the sale/purchase/reorganization.

4.05 Determination of values of benefits. Any comparison of values of benefits should have regard to the following:

- the comparison with respect to each element of benefit will usually be made on the basis of the same funding method and, unless the actuary otherwise deems it appropriate because of the particular circumstances of the situation, the same actuarial assumptions;

- the actuary should ensure that any differences due to the profile of the groups of employees involved do not bias his comparisons (if more than one group of employees is involved);

- when comparing different types of plans, the actuary should ensure that the comparisons are not distorted.

4.06 Disclosure of actuarial methods. The valuation report should contain a description of the actuarial methods in sufficient detail to make it understandable to another actuary. In the report the actuary should disclose any changes made to the actuarial methods since the last valuation and should indicate the effect of the changes.

5.01 Selection of the asset valuation method. The valuation of the assets and the valuation of the liabilities are interdependent and one cannot be considered in isolation from the other. The asset valuation method selected by the actuary should be such that it will produce a value of the plan's assets (cash, investments, and other property) which:

- is consistent with the economic assumptions used for the calculation of the related actuarial value of benefits; and

- provides an objective recognition of the long-term value in the context of the economic assumptions selected. This may require the removal of the effects of the short-term volatility of asset values.

The actuary should bear in mind the current market value of the assets and the past trend of market values to the extent that he has reflected these in selecting the economic assumptions.

The selection of consistent assumptions may be achieved either by considering assets, other than cash, as being represented by a series of future payments into the fund just as the liabilities represent a series of future payments out of the fund, or by discounting the liabilities using interest rates which reflect in a meaningful way the expected future yield of the assets and their re-investment, or by any other suitable method.

In the case of plan termination, merger, spin-off, etc., where the benefits have been valued at current market value, the use of market value of the assets would normally be desirable.

An asset valuation method may involve the direct discounting of the expected investment income from all or some of the assets. In such cases the actuary should give consideration to the differences in types of assets and the concomitant differences in their risk characteristics, their outstanding terms and reinvestment rates. The discounting rate used should be consistent with the economic assumptions used for the actuarial value of the benefits. For example, if a single rate of return is being used for the value of benefits (as an aggregate of a select rate for the next few years and an ultimate rate thereafter), the same rate may not be appropriate for the discounting of the expected investment income from the assets, bearing in mind that the average term

of assets will normally be shorter than the average term of benefit payments in most plans.

5.02 Disclosure of asset valuation method. The valuation report should contain a clear statement of the asset valuation method. For comparison purposes, the current book and market values of assets, if available, should also be reported. In the report, the actuary should disclose any changes made to asset valuation methods since the last valuation and should indicate the effect of the changes.

PART 6 - CONTINGENCY MARGINS AND RESERVES

6.01 Contingency margins and reserves. The actuary may introduce reasonable contingency margins and reserves in the valuation of a pension plan. For example:

- if discrepancies revealed through the checks performed on the data received are not resolved and, as a result, he does not have complete confidence in the data supplied, he may set up a specific contingency reserve;

- in making an assumption, the actuary may find it appropriate to introduce an element of caution, bearing in mind the degree of uncertainty in assumptions and the potential for adverse fluctuation regarding both assets and liabilities. In deciding the size of margins against the effect of adverse fluctuations in the experience, the actuary may take into account the size of the plan, the financial strength of the plan sponsor, and the nature of the plan's benefits. Any provision against adverse deviations may be in the form of an explicit contingency reserve;

- the actuary may provide for margins or contingency reserves in anticipation of expected benefit improvements. Such provision may be in the form of an explicit contingency reserve.

6.02 Disclosure of contingency margins and reserves. The valuation report should contain a description of the nature of any material contingency margin or reserve which the actuary has provided for - whether set up as an explicit reserve or implicitly through conservative assumptions or methods. In the report the actuary should also disclose the approximate overall financial impact of these margins and reserves and any changes made since the last valuation.

7.01 Report contents. The report on the valuation of a pension plan prepared by an actuary should contain information which will be sufficient to permit another actuary to make an objective appraisal of the valuation.

In addition to the items set out in Parts 1 through 6 of these recommendations every report should contain:

- the name and signature of the actuary directing the report and his professional affiliation;

- the name of the person or firm retaining the actuary for the report, and the purpose which the report is intended to serve;

- the effective date of the valuation;

- a summary of the valuation results in sufficient detail to satisfy the purpose of the valuation;

- the actuary's statements of opinion (described hereafter) as regards the data, the actuarial assumptions, and the actuarial method upon which the valuation is based.

7.02 Data statement. The actuary should state that in his opinion the data on which his valuation is based are sufficient and reliable for the purpose of the valuation. The actuary can so state provided that:

- he has had an adequate response to his request for the data and information that he considers sufficient and reliable for the valuation;

- he has performed such tests as he considered necessary in the circumstances; and

- his tests have satisfactory results.

If the actuary cannot make such statement, he should disclose the reasons in the valuation report.

7.03 Statement as to assumptions. The actuary should state that, in his opinion, his assumptions are "adequate and appropriate" for the purposes of the valuation. In the context of pension plan valuations:

- the word "adequate" should be interpreted as meaning "fully sufficient in view of the circumstances of the plan

and the actuary's judgment regarding the future course of events," but should not be interpreted as precluding some degree of conservatism; and

- the word "appropriate" should be interpreted as meaning "suitable in view of the circumstances of the plan and the purpose of the valuation."

He should indicate that, nonetheless, emerging experience differing from the assumptions will result in gains or losses which will be revealed in future valuations. In the case of a second or subsequent valuation, the valuation report should include a reconciliation of the valuation results and identify the sources of experience gains and losses since the last valuation, to the extent reasonable in the context of the purpose of the valuation and the number of participants in the plan.

7.04 Statement as to methods. The actuary should state that, in his opinion, the methods employed in his valuation "are consistent with sound actuarial principles" for the purpose of the valuation. The actuary can so state provided that his actuarial method for the valuation of plan benefits and his asset valuation method are consistent with each other in the context of the actuarial assumptions used for the valuation, and they comply with the recommendations contained herein.

7.05 Statement as to conformation. The actuary should state that the report has been prepared, and his opinions given, in accordance with generally accepted actuarial principles. The actuary can so state provided he has followed the principles set out in the Institute Guides, Opinions and Recommendations.

Table 1
Model Showing Basic Components of Economic Factors

Pre-retirement		
Investment return	Salary increase rate	Government benefit increase rate
1. Real interest rate 2. Inflation 3. Performance premium/ discount (reflecting superior/inferior asset management)	1. Real wage increase 2. Inflation 3. Merit/ promotional scale 4. Industry/ company adjustment	1. Real wage increase 2. Inflation 3. Catch-up factor (e.g., the transitional 12-1/2 % annual increase under the Canada/Quebec Pension Plan)
Post-retirement		
Investment return		Benefit adjustment
1. Real interest rate 2. Inflation 3. Performance premium/discount (reflecting superior/inferior asset management)		1. Scale of adjustment 2. Inflation, real wage increases and/or share of productivity (depending on the index selected)

NOTES

(1) Paul A. Gewirtz and Robert C. Phillips, "Unfunded Pension Liabilities...The New Myth." Financial Executive. Toronto: Financial Executives Institute, August 1978.

Legislative History of Major Ontario Public Sector Pension Plans

Ann Jamieson

September 17, 1980

CONTENTS

Legislative History of Major Ontario Public Sector Pension Plans

This history of the five major public sector pension plans outlines selected amendments to the specific acts governing the plans. Except for the Hospitals of Ontario Pension Plan, each plan is regulated by its own legislation in addition to the general Pension Benefits Act. Although it is often suggested that HOOPP is a private sector plan it is treated as a public sector plan because of the direct relationship of government funding of health care. The hospitals' obligation to make pension payments ultimately becomes an Ontario government responsibility. Therefore the plan is dealt with as part of the public sector.

PUBLIC SERVICE SUPERANNUATION

The original plan(1) was compulsory for full-time employees, although provision was made for employees who were temporary prior to November 1, 1920, and subsequently moved to permanent positions, to contribute from November 1, 1920. Those employed on a temporary basis after that date but subsequently transferred to a full-time position, could elect within one month to contribute for the period of temporary employment.

A pension was payable on retirement at age 70 with 10 years' continuous service or after 10 years of continuous service if termination resulted from other than misconduct, and on an optional basis at age 65 after 30 years of service. Otherwise, contributions were returned with interest at 5 per cent per annum. The pension was calculated as 2 per cent of the average of the last three years' salary multiplied by the years of service (to a maximum of 30) with a maximum pension of $2,000 per year. A retroactive amendment in the 1924 legislation set a minimum benefit of $360 per year.(2) For employees over retirement age when the plan began who retired subsequently, the annual payment was one-half their last annual salary, to the $2,000 yearly maximum. For an employee reaching retirement age before completing 10 years' service, the payment was one-tenth of annual salary for each year of service, still subject to the $2,000 annual benefit maximum.

Contributions that were made by payroll deduction, beginning in November 1920, were based on the age of the contributors and ranged from 2-1/2 per cent for those under age 21 to 5 per cent for those 45 years and over.(3) Contributions were matched by the employer from Consolidated Revenues.

Death benefits were payable to widows and children only, though the widow had to be over age 50 and have married the employee before he reached age 60. For members having 10 years of continuous service, the death benefit paid was one-half of the accrued pension; if the widow

died or remarried the allowance went to any children under age 18. If there were no widow or children the benefit was the greater of

a) a lump sum not to exceed one year's salary at the rate of the average of the last three years' salary; or

b) a return of the employee's contributions with interest at 5 per cent compounded annually.

In cases of death before completing 10 years' service, a lump-sum payment of the employee's contributions with 5 per cent annual interest would be paid. When a pensioner died before receiving an amount equal to one year's salary, his representative received either the balance, or the actual contributions made plus interest at 5 per cent less pension payments. If the deceased left a widow and children the payment was 50 per cent of the pension being paid to the widow for her lifetime or until she remarried, and then to the children until age 18.

Retirement because of disability earned a pension considered to be and computed as a superannuation allowance.

The fund was the responsibility of the Treasurer of Ontario and earned interest at the rate of 5 per cent per annum. Any deficiency was to be made up from Consolidated Revenues until such time as the fund was solvent. An annual statement had to be made to the Legislature. Administrative costs were covered by legislative appropriation.

A board was set up, composed of the President of the Executive Council who acted as chairman, the Civil Service Commissioner and one representative of the Ontario Civil Service Association, plus one member to be appointed by each recognized party in the legislature. The board decided on the entitlement to benefits.

The act also contained a provision allowing public servants who were then contributing to the Teachers' and Inspectors' Superannuation Fund to transfer to the Public Service Superannuation Fund if they so chose. Further, the act required that all married male plan members furnish proof of life insurance with a reliable company for an amount of not less than $5,000.

Benefits

The formula of 2 per cent of average salary in the last three years multiplied by years of service (to a maximum of 30) persisted until the Public Service Act, 1947 took effect, with Superannuation forming Part II of the Act.(4) At this time the maximum number of years for computation was raised to 35, the maximum payment increased from $2,000 to $3,000, and the minimum was set at $600 provided that amount was less than 70 per cent of the average salary during the last three years of service. The following year(5) an amendment allowed the best three

consecutive years' salary to be used rather than the last three. In the amendments of 1960-61(6) the maximum allowance provision was repealed. In 1961-62(7) the basis of salary for calculation was changed from the three highest years to the highest consecutive 36-month period. With the advent of the Canada Pension Plan in 1966 the basis changed in order to provide integrated benefits, with provisions for grandfathering in the case of persons employed before January 1, 1966.(8) The new basis for calculating benefits was 2 per cent of the average annual salary during the highest consecutive 60 months multiplied by the years of service to a maximum of 35 minus .7 per cent of salary up to the YMPE multiplied by the years of contributory service after January 1, 1966. No reduction occurred for persons retiring between age 60 and 65 with 20 years' contributions until they reached age 65. Nor was any reduction made for disability payments for those retiring before 1967 until CPP disability benefits became payable in 1971. Allowances were computed when CPP began for those who retired before being eligible for it. In other cases the reduction was 5 per cent per year for each year under age 65 except for persons with credit prior to January 1, 1966. In 1975(9) the minimum allowance of $600 per year was repealed.

In addition to the normal superannuation benefits, a system of compensation allowance for persons "whose services have been dispensed with" before retirement age was introduced in 1935,(10) retroactive to 1934. Based on a combination of age and service, the allowance was available to persons age 45 with 25 years' service, age 50 with 20 years' service, or age 55 with 15 years' service. It was based on the average yearly salary in the last three years, but was not to exceed one-seventieth the annual salary multiplied by a maximum of 30 years of service; the total was not to exceed $1,500 per year. In 1947(11) the maximum was set at $2,000 per year, to be based on a service maximum of 35 years. In 1953(12) an amendment provided that all employees under age 60 who were dismissed could receive compensation allowances, on a sliding scale based on age. In 1955 the age was raised to 65.(13) In 1958(14) the provision for such allowances was repealed.

In 1975, through the Superannuation Adjustment Benefits Act, S.O. 1975, c. 82, benefits were indexed to the Consumer Price Index to a maximum of 8 per cent.

Eligibility

The original definition of "employee" in the 1920 legislation was amended in 1924(15) to extend the definition retroactive to 1922 to include sheriffs of districts or counties, whether paid a salary or a fee. Also, staff of any board or commission of the government were included. In 1933(16) the meaning of employee was clarified to exclude anyone hired who could not serve 10 full years before retirement. In 1937 the period was raised to 15 years before age 70.(17) In 1941 magistrates were deemed to be employees if they were under age 55 on January 1, 1941, were appointed after that date and were under age 55,

or could serve 15 years before retirement.(18) In 1948(19) some jailers and jail employees were covered, with provision for back payment. The act also applied to deputy magistrates and full-time judges or deputy judges of family or juvenile courts. Amendments in 1952-53(20) extended coverage to County Registrars of Deeds and their full-time permanent employees. In 1955(21) Magistrates' full-time court staff became eligible. In May of 1956 married women were allowed to contribute. In 1962 it was provided that jailers and jail employees appointed after August 1 would not be covered.(22) From 1971(23) the act applied to the permanent staff and the full-time probationary staff of any board, commission, or foundation established under any act of the legislature that is designated by the Lieutenant-Governor in Council and to any full-time employees in designated positions whose request for coverage is approved by the Lieutenant-Governor in Council.

Contributions

The sliding scale of percentages based on the age of contributors persisted until 1936 when a rate of 4 per cent of salary was fixed for all members.(24) Beginning on March 1, 1948 the rate depended on the level of salary and length of service. For persons whose continuous service began before March 1, 1948 the rate remained at 4 per cent; for those beginning on or after that date the rate was set at 5 per cent for persons earning less than $1,500 per annum, and 6 per cent for those earning $1,500 or over.(25) In 1957(26) the rate was changed to 6 per cent of salary for all contributors. In 1966, when the Canada Pension Plan was introduced, the contributions were integrated. From that time members contributed at the rate of 6 per cent up to the YBE, 4.2 per cent between the YBE and the YMPE, and 6 per cent above the YMPE. Minimum age for contributions was set at 18, in line with the CPP.

The employer matched employees' contributions out of Consolidated Revenues until the amendment of 1974 which required the employer portion to come from legislative appropriation.(27)

Employees' contributions are subject to maximum age limitations; when mandatory retirement at age 70 was legislated in 1931, it was provided that superannuates might be rehired but might no longer contribute to the fund,(28) though further service could be counted toward the eventual reinstated pension. In 1965(29) it was provided that contributions should cease at age 65 except for persons who had been employed and were over age 50 on March 1, 1948 who were permitted to contribute to retirement or age 70 whichever came first; persons under age 50 and employed on March 1, 1948 but reappointed when over age 65 who were allowed to contribute to retirement; those age 70 or with 30 years' continuous service whichever was earliest, and magistrates appointed before May 1, 1952 who could contribute until reaching the retirement age for magistrates (age 75). In 1966(30) contributory age was rationalized with the new Canada Pension Plan, and contributions ceased at termination of employment in the public service or age 70,

excluding magistrates appointed before July 1, 1941 who were under the aegis of the Magistrates' Act and could continue to contribute until age 75. However, an optional cessation of contributions over age 65 existed. Any employees over 65 and still employed on July 8, 1966 were permitted to elect within six months to contribute beyond age 65.

Contributions for past non-contributory service, such as temporary employment, continued to be permitted by legislation. In 1946(31) persons moving to a permanent position were permitted, upon notice to the board within three months of appointment, to contribute for past continuous temporary service plus interest at 3 per cent per annum. In 1947(32) the provision was amended to allow notice to be given within six months of the amendment's coming into force or within three months of appointment. In 1956(33) it was provided that the election to contribute for continuous casual service had to be made by December 1, 1956 or three months from the date of appointment, whichever was later. Beginning in 1957(34) the rate of contribution depended on the date of hire, with those employed permanently after April 1, 1957 contributing 3 per cent of salary, those employed before April 1, 1957 paying 4 per cent to April 1, 1957 and 6 per cent thereafter, or 6 per cent overall, with payments to be subject to interest at 5 per cent per annum. Notice of intent to contribute was to be given before March 31, 1959. In 1964(35) the provision was amended to allow those appointed on or after April 1, 1964 to contribute with interest at 3 per cent, subject to notice of intent within one year of appointment. For those appointed to permanent positions before April 1, 1964 the option remained open until December 31, 1965 to elect to pay, with interest at 5 per cent per annum. By 1971(36) the provision was widened to allow contributions for non-contributory service immediately prior to appointment to be made any time before ceasing to be an employee.

In 1974(37) credit for military service allowed for back contributions at 12 per cent of salary and covered military service in World War II and Korea. In 1975(38) coverage was widened to include the merchant marine.

Pursuant to the Superannuation Adjustment Benefits Act, an additional contribution of 1 per cent by the employee and 1 per cent by employer is paid on account of indexing.

<u>Vesting and Locking-in</u>

Although statutory vesting and the locking-in rule of age 45 and 10 years' service was not in effect until 1965, deferred annuities to terminating employees with 10 years' service have been available under the Public Service Superannuation plan since 1958. Before that time a return of contributions was provided upon termination of employment. The original act that provided for interest at 5 per cent was amended in 1933(39) so that contributions made before May 1, 1933 earned 5 per cent, those after that date earned 3 per cent. However, if a job was

abolished or the employee was disabled or reached retirement age before having a pension, the interest earned was at 5 per cent. The Public Service Act 1947, (Part II)(40) provided a return of contributions only for persons employed less than three years, otherwise interest was at 3 per cent. This provision was also applied to contributions to the Public Service Retirement Fund under Part III of the Public Service Act in 1952.(41) Beginning in 1958(42) annuities were payable for persons who had contributed for 10 years or more, provided they were under age 50 when continuous service began, as follows:

- those ceasing employment before age 65 received a deferred annuity at 65;

- those ceasing employment after age 65 earned an immediate annuity;

- those ceasing employment after age 50 but before age 60 received an immediate annuity, with the approval of the Lieutenant-Governor in Council, as did former contributors with deferred annuities.

The annuity was the accrued pension reduced by 1 per cent per year for each year of service less than 20.

In 1960-61(43) a deferred annuity at age 60 became payable for those with 10 years' contributions who ceased employment before age 60. The maximum age 50 for service was repealed.

In 1965(44) benefits were locked-in at the statutory age 45 with 10 years' service. Beginning in 1966(45) employees who entered the public service on or after January 1, 1966, who ceased employment before age 65 after 10 or more years' service, earned a deferred annuity at age 65, with the approval of the Lieutenant-Governor in Council an immediate annuity on cessation of employment after age 55. Those with deferred annuities might convert them to immediate annuities after age 55, with the approval of the Lieutenant-Governor in Council. Anyone who qualified for a deferred annuity before January 1, 1966 and was age 50 or more, or anyone with credits before January 1, 1966 who ceased employment after age 50 but before age 60, or who had a deferred annuity and was at least age 50, earned an immediate annuity, with the approval of the Lieutenant-Governor in Council, computed as of December 31, 1965. Beginning in July of 1966 unvested contributions were returned with interest at 3 per cent per annum to July 8, 1966 and 3 per cent per annum compounded semi-annually. In 1975(46) the interest rate was increased to 5 per cent per annum compounded annually. Current provisions allow for a vested pension after 10 years of contributory service and locking-in at age 45 with 10 years' service, in which case a deferred annuity is payable at age 65.

Portability

The original legislation allowed for transfers between the Teachers' and Inspectors' Superannuation Fund and that of the Public Service, provided election was made before July 1, 1920. The option continued under the 1927 Act(47), and in the case of employees appointed after July 1, 1927 notice was required within 30 days of hire. The provisions of the 1937(48) amendments required interest to be paid at 4-3/4 per cent compounded annually on any transfers, with the requirement for notice continuing to be 30 days. In 1941(49) provision was made for transfers to the pension plan of the Civil Service of Canada. Revisions in 1948(50) allowed for transfers to the civil service of any municipality and expanded the provisions of the transfers to the Teachers' Fund. Persons employed after March 1, 1948 could elect within 60 days to transfer credits; those employed on or before that date who had withdrawn contributions could reinstate credits with interest at 4-3/4 per cent compounded semi-annually. But any credit on transfers from the Teachers' Fund could not exceed 18 years' service or 70 per cent of the credit in the Teachers' Fund. With the formation of the Public Service Retirement Fund in 1951 the right to transfers continued, and credits were transferable between the Retirement Fund and the Superannuation Fund. In 1953(51) the matter of teachers' transfers was clarified to allow for a maximum credit of 20 years of service and 70 per cent of credits in the fund. In 1960(52) interest on the transfers from the Retirement Fund to the Superannuation Fund was set at 3 per cent per annum. Amendments in 1961(53) included transfers to any province in Canada and allowed for the signing of reciprocal agreements. In 1965(54) credits were allowed to be transferred with accumulated interest and election was required within 60 days of appointment. In 1966(55) credit was increased to 100 per cent of continuous service or 70 per cent of continuous and non-continuous service still with the 20-year maximum. There was provision for retroactivity upon application in writing.

In 1970(56) transfers were allowed between the Public Service Fund and any Crown Corporations of Canada or the provinces. In 1971(57) the staffs of universities and colleges were added. Amendments of 1974(58) allowed transferring to the Canadian Forces and chaplaincy service, and establishing prior service with approved employers, if double contributions plus interest were paid. In addition, transfers to the Teachers' Fund were at 6 per cent interest compounded annually. In 1975(59) transfers were extended to the staff of any government-related agencies or public institutions assisted by monies from legislative appropriation or any corporations whose controlling interest is owned by Ontario. As of March 31, 1978, the plan had reciprocal agreements with the following bodies:

Alberta Civil Service Superannuation Fund
Anglican Church of Canada Pension Fund(a)
British Columbia Civil Service Superannuation Fund
Canada Public Service Superannuation Fund
Canadian Broadcasting Corporation Pension Fund
Central Mortgage and Housing Corporation Pension Fund
Evangelical Lutheran Church of Canada Pension Fund(a)
Hospital for Sick Children Employees Pension Fund
Hospitals of Ontario Pension Fund
McMaster University Pension Fund
Manitoba Civil Service Superannuation Fund
New Brunswick Civil Service Superannuation Fund
Ontario Hydro Pension Fund
Ontario Municipal Employees Retirement System
Ontario Research Foundation Pension Fund
Ontario Teachers' Superannuation Fund
Prince Edward Island Civil Service Superannuation Fund
Queen's University Pension Fund
Retirement Pension Plan of Colleges of Applied Arts and Technology
Saskatchewan Civil Service Superannuation Fund
Saskatchewan Power Corporation
Toronto Western Hospital Employees Pension Fund
Trent University Pension Fund
United Church of Canada Pension Fund
University f Guelph Pension Fund
University of Ottawa Pension Fund
University of Toronto Pension Fund
Workmen's Compensation Board Superannuation Fund
York University Pension Fund

a Applies only to Ontario public service chaplains.

Retirement Age

The original provisions of the legislation allowed for retirement at age 70 with 10 years' service, at age 65 with 35 years' service, or for disability after 10 years' service. An amendment in 1924(60) retroactive to 1923 allowed for a superannuation payment upon forced retirement, other than for misconduct, after 25 years' service. In 1928(61) mandatory retirement was legislated for persons age 60 with 25 years' service, and in 1933(62) an optional retirement provision of age 65 with 25 years of service was introduced. The 1947 legislation(63) provided for a pension for those at age 65 with 15 years' service, or at 60 with 25 years' service; for those over age 55 at the time of enactment, or at age 70 with 15 years of contributions (10 years in the case of someone hired before June 25, 1937). The following year(64) this last provision was amended to apply to persons age 50 and over on March 1, 1948.

An amendment in 1961-62(65) which provided for a pension at age 60 with 20 years' service was extended in 1966(66) to age 65 with 10 years' contributions. In 1971(67) provision was made for a pension when age and service totalled 90 for those retiring after November 1, 1971. These provisions are in effect today.

Survivor Benefits

Apart from the death benefit payable under the 1920 legislation, married male employees were required to submit evidence of $5,000 life insurance. The amount was lowered to $2,000 in the 1922(68) amendments and the provision repealed in 1937.(69) From October 1, 1965 group life insurance covered all public servants.

The survivor benefit provisions were amended in 1928(70) so that no pension was payable either to a widow who had married the deceased after his superannuation began, or to any of her children. In 1933(71) provision was made for payment of the accrued allowance or a return of contributions with 5 per cent interest compounded annually in case of death before retirement where no widow or children survived. Where death occurred after retirement but before one full year's allowance was received, and no widow or children survived, the amount paid to a representative of the deceased was the balance of the allowance for the year or the difference between contributions made and the pension already received. In 1938(72) provision was made for contributions to be refunded at 5 per cent annual interest or for such interest to be added to contributions in cases where a lump sum of the difference between contributions made and benefits received was being made to the estate. In the 1947 Act(73) death before retirement entitled the personal representative of the deceased to a lump-sum payment of twice the contributions with interest at 3 per cent per annum. The death of a pensioner entailed payment of contributions with interest at 3 per cent less benefits paid, and where the employee or pensioner was a widow, her children under age 18 were entitled to benefits. In 1958(74) the survivor benefit to a widow was one-half the annuity to the employee. If no widow survived, or if she died or remarried, the allowance was paid to any child under age 18. If no widow or children survived, a refund of contributions at 3 per cent less benefits received was paid.

Amendments in 1960-61(75) provided for payment to begin on the first of the month following the month of entitlement, and to cease on the last day of the month in which disentitlement occurred, rather than beginning on the day after entitlement, as provided for in the 1920 Act.

Beginning in July 1966(76) the allowance to a widow or children was half the accrued pension to age 65, and a dependent widower's benefit was payable on the same basis if the marriage had lasted at least one year at the time of the employee's death. Although no allowance was paid in the case of a widow who married the pensioner after superannu-

ation began, a refund was paid of twice the contributions with interest, less pension benefits paid. In cases of death before eligibility for CPP survivor benefits (January 1, 1969), the pension was calculated on the old formula, otherwise the allowance was reduced by 5 per cent per year for ages less than 65 to a maximum of 50 per cent. Amendments in 1969(77) recognized the common-law widow in cases of co-habitation of seven years if there was a hindrance to the marriage, or in cases where the couple had lived together for a number of years, representing themselves as husband and wife.

In 1971(78) payments of refunds where no pension was payable because service was under 10 years were extended to widowers. In 1974(79) the definition of a dependent child was enlarged to include those in school or university full-time up to age 25. Amendments in 1975(80) recognized the common-law widower and reduced the requirement in both cases to 12 months' cohabitation. In cases of legal separation where a spouse was not entitled to the benefits, children of the marriage were still protected. When a spouse cannot be found, the board may direct that monies go to children or the estate.

Disability Benefits

The original provision in cases of disability allowed for a superannuation allowance of the 10 years of service. In 1933(81) an amendment provided for a refund of contributions with interest at 5 per cent per annum in cases of retirement for ill health before a superannuation allowance could be paid. In 1947(82) the provision of 10 years' minimum service was reintroduced, and the maximum and minimum payments of $3,000 and $600 for the superannuation payment applied to disability payments from all sources. The allowance was payable to persons retired by the Lieutenant-Governor in Council if the board found them incapable of performing their work. In cases of recovery, if re-employment was not accepted by the pensioner, the allowance ceased. If the allowance paid was less than contributions made by the pensioner, the balance was refundable in a lump sum with interest at 3 per cent per annum. The 1952(83) amendments required 10 years of service and provided allowances to persons hired more than 15 years before retirement age who were retired because of ill health. Those who were retired for incapacity, and not entitled to disability allowances, received a lump-sum payment of twice the employee contributions plus interest at 3 per cent. In 1966(84) the age restriction was lifted. In 1969(85) it was no longer necessary to have been retired from service by the Lieutenant-Governor in Council. In 1971(86), in cases where re-employment offers were not accepted by recovered pensioners, a deferred or immediate annuity was payable. Beginning in 1974(87) employees qualifying for long-term disability continued to accrue superannuation credits while off work.

Fund Investments

The original fund was supplemented from Consolidated Revenues until such time as it became solvent. Amendments in 1931(88) provided for investment of the fund in Ontario bonds or guaranteed securities earmarked for the fund. The auditor was required to make an annual report. In 1947(89) it was required that the report be tabled in the legislature by the Treasurer who was custodian of the fund. This act also provided that Consolidated Revenues pay to the fund 5 per cent per annum interest, compounded annually at the end of each fiscal year on the uninvested balance at the beginning of the fiscal year. Any deficiency in the fund was to be paid from Consolidated Revenues. In 1951-52(90) the Public Service Retirement Fund was established. Consolidated Revenues credited 3 per cent interest on the balance, and credits were transferable to the Public Service Superannuation Fund and the Teachers' and Inspectors' Superannuation Fund. An annual audit continued to be required for both funds, with the auditor's reports and the annual reports tabled by the Treasurer. In 1965(91) it was provided that interest of 5 per cent per annum be provided by Consolidated Revenues for any unfunded liability. The Public Service Retirement Fund was repealed as of April 1, with credits transferred to the Public Service Superannuation Fund. The following year(92) the interest rate on the fund was set at 3 per cent per annum compounded half-yearly. In 1974(93) the provision for payment of the unfunded liability was repealed. In 1975(94) interest was set at 5 per cent per annum compounded annually, unless otherwise stated.

Plan Administration

The plan is administered by the Public Service Superannuation Board which was established at the time the legislation was passed. There have been only three changes to its composition since inception. In 1932(95) the legislation provided for three members appointed by the Lieutenant-Governor in Council, one of them to be a representative of employees in the Ontario Civil Service. In 1959 the board was expanded to four members(96): the Chairman of the Civil Service Commission was to act as an ex-officio member and the other three members, one of whom was to be a representative of the Civil Service Association of Ontario, were to be appointed by the Lieutenant-Governor in Council who also designated one of them to act as Chairman of the Board. Lastly, in 1974(97) the board was to comprise four members to be appointed by the Lieutenant-Governor in Council, one of them to be a representative of the Civil Service Commission, and one to represent the Civil Service Association of Ontario.

TEACHERS' SUPERANNUATION

The Teachers' and Inspectors' Superannuation Act of 1917(98) was the basis of the plan in existence in Ontario today, though efforts to

provide pensions for teachers predated its passage by more than 50 years. Various vehicles were used to this end.

The legislation of 1917 provided for compulsory coverage for those employed as teachers and inspectors. "Employed" was defined as follows:

"Employed" shall mean and include:

1. Engaged in Ontario in teaching in a public school, separate school, continuation school, high school, collegiate institute, provincial normal or model school, a school to which the Industrial Education Act applies, a faculty of education approved by the minister, and including its attached observation and practice school, the Ontario School for the Deaf or the Ontario School for the Blind;

2. Engaged in Ontario as an inspector of public sectors by a county or other municipality;

3. Engaged by the minister, or by the government, as an inspector or a supervisor of any grade or department or class of such schools, or as Superintendent of Education, or as any other officer designated by the minister as being engaged in work in connection with the administration of the Ontario Department of Education requiring the professional qualifications and experience of a teacher.(99)

Beginning in April of 1917, members contributed 2-1/2 per cent of salary, by payroll deduction, an amount which was matched by a grant from provincial Consolidated Revenues. "Salary" was deemed to be a minimum of $550 annually, but in cases where it was less than this amount the maximum and minimum pensions payable according to the benefit formula were prorated. The benefit was one-sixtieth of the average salary for the last 10 years multiplied by the number of full years of service. The service requirement for a full pension was 40 years. Minimum payment was set at $20 per year of service and the maximum was $1,000 per year unless actual contributions would have bought a larger annuity when calculated according to Dominion Government Annuity rates then in force. In such cases the latter amount was the amount of the pension.

Any years of contributions to the fund were counted as full years for benefit purposes; any years of service before contributions came into effect were counted as half years. Pension credits already existing under school boards' plans could be transferred to the new plan on an actuarially-equivalent basis. The earlier fund was wiped out and no further contributions were to be made to it. Service also included military service "in defence of the empire"(100) including nursing services. A reduced pension was available after 30 full years of

service and in cases of invalidity after 15 years' service. Although the pension was terminated in cases of re-employment after retirement, further service credits could accrue. The death benefit was a simple return of contributions.

A commission, established to administer the plan and approve the benefits, was composed of three members appointed by the minister, one an actuary, and two members elected by and from the membership of the Ontario Education Association who were contributors to the fund. The minister designated one member to act as chairman for a three-year term.

An actuarial valuation was required to be performed on January 1, 1921 and every three years thereafter. Legislation also stipulated that if the fund could so provide, benefits should be added to the plan, as follows:

1. a return of contributions upon termination after at least five years' service;

2. a death benefit after retirement such that the pension payments already made plus the said death benefit were at least equal to the deceased's contributions.

The legislation has been amended almost every year since its passage, and in many cases changes were made by amendments to the Schools Act which ensured consistency in matters relating to the education field.

Benefits

The original formula in the 1917 legislation was one-sixtieth of average salary in the last 10 years multiplied by the number of full years of service - 40 years being deemed "full" pension. In 1920 an amendment through the Schools Act(101) added a provision of an extra $1 for teachers or inspectors having first or second class provincial certificates, or first class country board certificates, and for principals of high schools or collegiate institutes. A further amendment by means of the school laws(102) in 1933 provided that "average salary" was to be based on the average salary during the last 10 years of employment or the average salary during the years of contribution, whichever was greater. The maximum pension was not to exceed 60 per cent of the average salary.

In 1934 service for a full pension was reduced to 39 years(103) and in 1936 the plan moved to a career average formula based on 39 years maximum.(104) In 1943 the definition of service included service in the navy, army, and air force.(105) Changes in 1945(106) which increased the minimum annual salary for benefit calculation to $800 from the original $550, resulted in a minimum benefit of $500 per annum or 60 per

cent of the amount of average salary, if less than the deemed minimum of $800. The maximum benefit was raised from the original amount of $1,000 to $1,500, still with the provisions concerning the dominion government annuity calculation in cases where actual contributions would have resulted in a pension greater than the maximum. Service was reduced to 36 years for full benefit, still on the career average formula. A specified retirement age came into effect (see section on Retirement Age) but provision was made for a full pension to be payable after 40 years of service, regardless of age. Pensions for those with 30 years' service were also calculated at an unreduced 60 per cent.

Minor amendments in an otherwise comprehensive revision to the Teachers' and Inspectors' Superannuation Act in 1946(107) eliminated the $500 annual minimum pension, but stipulated that after 30 years of service a minimum of $7 per year employed would be provided. The amendments also defined "salary" as including a cost-of-living bonus but not overtime payments for special services. A further comprehensive revision, including a change in the name of the statute in 1949(108) included the following changes to benefit calculation:

- the formula moved to one of 50 per cent of the average salary for the last 15 years of contributions times years of service;

- service years were reduced to 35 (at age 62);

- full pension continued to be paid after 40 years of service regardless of age; the full 50 per cent rate was used for retirement with 30 years of service; or for 25 years of service with five of them after age 55 for those retiring after age 62;

- minimum salary was deemed to be $1,000 per annum, for benefit purposes;

- a minimum pension of $600 and a maximum of $3,000 were instituted, waiving the maximum under the 1946 legislation;

- all payments were increased by $120 per annum from April 1, 1949, and actual pensions that were less than $600 per year were raised to $600;

- the legislation stipulated that retirement after April 1, 1949 would come under the provisions of the new act, and retirement before that date would fall under the terms of the 1946 legislation, but be subject to the $600 pension minimum and the $120 increase.

The following year the statute was again amended,(109) so that persons retiring after less than 25 years of service would receive the equivalent benefit to a government annuity purchase with the joint contributions, and those with 25 or more years of service would receive the

greater of the government annuity equivalent or the regularly-calculated amount. In 1953 the maximum pension of $3,000 was deleted(110) and pensions being paid were reviewed in the light of this amendment, as at April 1, 1953. In the following year the basis of calculation was moved to the average of the last 10 rather than 15 years.(111) The provisions of a 1955 amendment allowed for the recalculation of benefits based on the 1954 move to a 10-year average.(112)

The current benefit formula of a 2 per cent benefit for the average of the best seven years' salary to a maximum of 35 years' service was adopted in 1966,(113) with a reduction of .7 per cent up to the year's maximum pensionable earnings of the recently created Canada Pension Plan, after 1965. The years of service which had previously been termed "school years" became "years of service;" the $600 minimum pension was eliminated; and provision was made for a 5 per cent reduction in benefits for persons aged 61 and over but not yet age 65, and of 5 per cent per year below age 62 for those under age 61 at the time of retirement. In 1967(114) the plan was amended to remove the provision for reducing benefits in the case of persons retiring after age 62 but before their Canada Pension Plan benefits became payable. In the 1968-1969 session the minimum annual pensionable salary was increased to $2,000.(115)

In 1975, the Superannuation Adjustment Benefits Act, S.O. 1975, c. 82, provided for indexation of benefits to the Consumer Price Index to a maximum of 8 per cent.

Eligibility

Plan membership has been compulsory since the legislation in 1917; coverage started immediately for inspectors and teachers in those schools then in existence. Over time the definition of "employed" has been expanded or modified to encompass the changing form of education in the province. In 1918(116) coverage was expanded to cover those teaching returning soldiers and sailors, and to allow contributions by persons in the armed forces. In 1919 further expansion included those in certified industrial schools or "any public institution supported in whole or in part by contributions from the province or from a municipal corporation."(117) By amendments of 1922 officers of any association or body of teachers were added and teachers from overseas were not required to contribute to the fund, while Ontario teachers serving elsewhere retained the option of continuing membership.(118) In 1932 the definition of "inspector" was enlarged to include "an inspector of the Penny Savings Bank."(119)

The amendments of 1941 expanded the definition to include non-teaching posts of persons "engaged in Ontario by a board in work demanding the professional qualifications and experience of a teacher."(120) The Act of 1946(121) excluded certain part-time categories and redefined employed as "engaged."

1. d) (i) as a teacher in or inspector of a public school, separate school, continuation school, high school, collegiate institute, provincial normal or model school, a school to which the Vocational Education Act applies, the Ontario College of Education, or the University of Toronto Schools,

(ii) as a teacher in or inspector of a school or class supported in whole or in part by contributions from the province or from a municipal corporation, and designated by the regulations,

(iii) as a teacher in or inspector of a school outside of Ontario under a system of exchanging teachers, or otherwise, authorized by the Minister,

(iv) as an officer of an association or body of teachers engaged in advancing the interests of education and designated by the regulations, or

(v) by the Minister or a board in any capacity designated by the regulations, but no person shall be deemed to be employed who,

(vi) is a member of the staff of a technical or vocational school but, not being a teacher by profession, pursues some other occupation or calling,

(vii) is engaged only for part-time to teach music, art and crafts, physical and health education, home economics, industrial arts and crafts or any other special subject,

(viii) is a teacher or inspector regularly engaged outside Ontario who is performing services in Ontario under a system of exchanging teachers, or otherwise, approved by the Minister, or

(ix) is a contributor to the Public Service Superannuation Fund established under the Public Service Act.

The 1949 Bill which dropped "Inspectors" from the title left basically the same definition of "employed" for teachers as had prevailed in 1946. This bill added schools for discharged soldiers, sailors, and airmen, and set a minimum of 20 hours' teaching per week (regardless of subject) for coverage.(122) The following provision was also added:

"Every person on the instructional staff of any normal school in Ontario, the Ontario College of Education, the University of Toronto Schools, the Ontario School for the Deaf, the Ontario School

for the Blind, the Province of Ontario Correspondence Courses, or the Royal Ontario Museum who was a contributor to the Teachers' and Inspectors' Superannuation Fund on the 1st day of July, 1946, shall notwithstanding any of the provisions of the act and so long as he remains on any such instructional staff and so long as he does not contribute to any other superannuation fund to which the Crown contributes, be deemed to be employed within the meaning of this act."

In 1950 "railway-car schools" were added to the list,(123) and as institutions, community, and technical colleges were established throughout the 1950s and 1960s coverage was expanded to the staff.(124) Provision was made for privately-funded schools to deduct contributions and provide coverage for their teachers.(125) In addition, as plans were established in institutions like universities, community colleges, or the Ontario Institute for Studies in Education, employees were given the option of having their own plan or remaining in the Teachers' Fund. (126)

Contributions

Typical of public sector plans, the one covering teachers and inspectors has been contributory in nature since inception. The original contribution was by payroll deduction in equal instalments that amounted to 2-1/2 per cent of annual salary. This was matched by the province which set aside sufficient funds once a year. In 1919 it was directed that contributions from teachers whose salary was paid in part by an employer other than a school board should nonetheless be based on the whole salary and not just the portion paid by the school.(127) This provision was amended in 1943(128) and from that point on salary and service credits were prorated according to time spent and salary earned as an employee of a school board, with contributions based on the portion of salary.

The rate of contribution remained unchanged until 1936 when it was raised to 3 per cent of salary for employees; the province continued to contribute at the rate of 2-1/2 per cent.(129) In 1944 it was decided that the province should match the employees' contributions,(130) and the following year the rate was increased to 4 per cent.(131)

The 1946 Act(132) allowed for direct contributions by employees who were on leave of absence for various reasons as defined by regulation, who were employed full-time for special subjects, or were employed by boards that refused or neglected to withhold contributions from salary. Payments, in such cases, could be made without interest (if within certain time limits) and were matched by the province, thus maintaining continuous coverage under the plan. The provisions of the 1949 Act(133) which raised the employees' contribution rate to 6 per cent also stated that the province would advance only two-thirds of the contributions made voluntarily. In 1955 the provision was again amended so that the

province would contribute two-thirds of the regular contributions but would match any special or back-contributions.(134) In 1957 the province reverted to matched contributions for all cases.(135) Contributions were integrated with those required by the Canada Pension Plan, and in the 1968-1969 legislation the rate stipulated was 6 per cent below the Year's Basic Exemption (YBE), 4.8 per cent between the YBE and the Year's Maximum Pensionable Earnings (YMPE) and 6 per cent above the YMPE. This formula was matched by the employer and remains in force today with the addition of 1 per cent employee and 1 per cent employer contribution for the indexing of benefits.

Vesting and Locking-in

The 45 and 10 statutory vesting rule came into force in 1965. Prior to that time employee contributions were handled differently if the employee had five or more years' service. The original 1917 legislation stipulated that, if possible, the fund should return contributions upon termination after at least five years' service. The legislation of 1936(136) provided that upon termination after five years of service the member would receive a return of contributions with interest at the rate of 4 per cent from the date of "retirement" to June 30, 1936 and at the rate used by the Province of Ontario Savings Office from July 1, 1936 to the date of the refund, compounded half-yearly. In 1946(137) the legislation was amended to provide a return of contributions with interest at 1-1/2 per cent compounded half-yearly in cases of withdrawal from service after five years, and a forfeiture of contributions for under five years of service unless employment was less than 20 days. In addition, provision was made for a return of contributions with interest at the rate of 4 per cent compounded half-yearly, in cases of forced retirement before pensionable age. The 1949 Act(138) allowed for interest of 1-1/2 per cent compounded half-yearly to March 31, 1949 in cases of less than five years' service, with no refund payable until a full three months after cessation of employment. The 1950 amendments(139) extended the refund of contributions at 4 per cent compounded half-yearly to cases of forced retirement because of age, and provided that interest payable should be on each amount for the length of time it was in the fund. The forfeiture of contributions in cases of less than five years' service was repealed in 1953.(140) The 1961-62 legislation(141) provided that if a person was retired because of age with at least 15 years' service, or five or more years after age 55, contributions would be refunded with interest at 4 per cent compounded half-yearly. The provision eliminating refunds after age 45 and 10 years' service came in 1964(142) following the proclamation of the Pension Benefits Act, as did the right to a deferred pension at age 65 if forcibly retired because of age. Such a deferred pension would be on an actuarially-equivalent basis if the retiree was over age 55. In 1966(143) the legislation allowed for a refund for persons ceasing employment before age 45 even with 10 years' service. In other cases a deferred pension was available and the minimum five years' service for a return of contributions (with 3 per cent interest) in case of death was

repealed. Current provisions are 10 years' service for a vested benefit, and age 45 with 10 years' service - the legal minimum - for locking-in.

Portability

As early as 1944 an amendment by way of the Schools Act(144) provided that credits could be earned in the plan for service in other provinces, and that credits with accumulated interest could be carried to other provinces' plans on behalf of former Ontario teachers. Agreements for transferability within the public sector were made throughout the 1960s, and in 1966 it was provided that 3 per cent interest would be allowed on such transfers.(145)

Retirement Age

Years of service rather than age governed entitlement to a pension in the early years of the teachers' plan. When service was reduced to 36 years in the 1945(146) amendments it was provided that males should have attained age 65 and females age 62. The Act of 1949(147) allowed for retirement at age 62 with 35 years' service. When the plan was integrated with the Canada Pension Plan, allowance was made, as seen in the section on vesting and locking-in, for unreduced benefits for those retiring at the normal age for the plan but before entitlement to CPP benefits, until the two retirement ages could be brought together at 65. In 1971(148) provision was made for retirement at age 62 with 35 years' service for persons retiring on or before November 30, 1971, and with a combination of age and service totalling 90 for those retiring after that date.

Survivor Benefits

The original provision of the 1917(149)legislation in cases of death of an employee was a simple return of contributions. The 1921(150) amendments recommended that if the fund would allow, interest should be provided on such refunds. In 1922 the interest rate was set at 5 per cent.(151) The amendments of 1925(152) changed the rate to 4 per cent compounded half-yearly. In 1932 a provision allowed employees to elect, three years before retirement date, either a joint life annuity or a surviving spouse pension,(153). In 1933(154) contributions were to be returned with interest at 3 per cent, and in 1936 it was provided that the interest rate on refunds upon the death of an employee or pensioner would be the rate in effect at the Province of Ontario Savings Office at the time of the refund.(155) Amendments of 1945(156) allowed for the option of a half pension to the surviving spouse of married plan members, or to any other dependent in the case of other members. In 1946(157) the interest rate was reduced to 3 per cent per annum compounded half-yearly; in cases of death before retirement, contributions were returned, and when death occurred after retirement the refund was a return of contributions plus 3 per cent interest less benefits paid plus 3 per cent interest. The Act of 1949(158) ushered in a survivor benefit

provision much closer to those in effect in pension plans today. It provided for the payment of 50 per cent of the accrued or actual pension to the widow of a plan member, and an allowance to dependent children under age 18. If there was no surviving spouse 50 per cent of the accrued or actual pension went to the dependent child. The allowance did not apply in cases of a marriage occurring after retirement or age 60, or to the widow's children in such cases; the widow's pension terminated on her remarriage. Provision was also made for a pension to dependent widowers of female plan members if the couple had been married for 10 years at the date of death or retirement whichever was earlier, and to any dependent children of the female plan member. The allowance, with a minimum figure of $300 per year, began as of the day following the plan member's death. In cases where a dependent's allowance ceased before payments with interest at 3 per cent equalled the deceased's actual contributions with interest at 3 per cent, the difference could be paid to the plan member's representative.

In 1950(159) the dependent's allowance provisions were extended to include allowances for the following:

- plan members who terminated employment before retirement age for reasons other than ill-health but who manifested the intention of becoming re-employed;

- children of widows or children of married women who supported such children at the time of her death, if the widower did not qualify for the spouse portion of the allowance;

- all children, including adopted or stepchildren.

In 1955(160) the dependent's allowance minimum ($300 per year) was extended retroactively to the widow and/or children who, as of April 1, 1954, would have been entitled to the allowance had the plan member died after April 1, 1949. In 1964(161) a deferred dependent's allowance was added, and any allowance payable after April 1, 1964 was to begin on the first day of the month following the month of death, rather than the day after death. The 1966 amendments(162) provided that the deferred benefit was to be 50 per cent of the amount that would have been received at the beginning of the month after the month in which the plan member reached age 65, that payments to a widow would be reduced 2-1/2 per cent for each year she was more than 10 years younger than her husband, and that dependents' allowances were based on a sliding scale according to age. In 1971(163) the sex discrimination in benefits was removed and spouses' benefits became available to widowers on the same terms as to widows. An amendment two years later defined dependent child as under 18 or under 25 when in school or university full-time. (164)

Disability Benefits

The 1917 legislation,(165) first introduced the provision allowing a full pension in cases of full disability after 15 years' service. There was no provision for partial disability until the amendments of 1930(166) which allowed benefits to be calculated at the full rate based on a maximum of 39 years' service, with a $240 annual minimum payment, plus $10 for each year over age 60. Full pension continued to be paid in cases of permanent disability after 15 years' service. In 1933(167) it was provided that application for full or partial disability pensions must be made within two years of cessation of employment. Any return to work after disability occasioned a termination of the pension and repayment of benefits to the fund. In 1946 the extra $10 payment provision was clarified to mean $10 for each year the recipient was over age 60 at the time of termination of employment.(168) When the Canada Pension Plan was introduced, disability benefits under the Teachers' Plan were integrated with it, and became payable after 10 rather than 15 years' service, as in the 1966 amendments.(169)

Fund Investments

The initial Act of 1917 provided for a fund to be the responsibility of the Treasurer of Ontario but laid down no rules for investment of funds. The following year an amendment to the School Laws(170) allowed for the transfer of monies from local or municipal funds in existence to the Teachers' and Inspectors' Superannuation Fund (particularly the Toronto and Ottawa funds) but rules for the handling of the fund were not forthcoming until the extensive provisions of the 1920 amendments.(171) Section 10 stipulated that contributions in each fiscal year ending October 31 were to be credited as of February 1 in each fiscal year, and interest was to be calculated half-yearly on April 30 and October 31 at rates of provincial loans as fixed by the Lieutenant-Governor in Council for the period February 1 to July 31 in each fiscal year. Any balance of contributions as of October 31, 1920 was to be set aside from Consolidated Revenues to constitute the fund. Funds could be invested in provincial securities; books were to be kept and an account set up in a Canadian chartered bank in the name of the Treasurer of Ontario. Auditors were required to report annually, with the costs of the audit to be borne by Consolidated Revenues. Actuarial valuations were to be made at least every three years. The next major revision occurred in 1932,(172) and outlined the provisions for investing the fund in debentures. Beginning on November 1, 1932 and on November 1 in each of the following nine years, the surplus in the fund was to be in the form of debentures bearing 4-3/4 per cent annual interest payable half-yearly and to mature on November 1, 1942. At November 1, 1942 any surplus was to be reinvested in 40-year debentures, at 4-3/4 per cent per annum as before. This 10-year/40-year arrangement was maintained for the period beginning in 1942. Amendments in 1946(173) provided that the interest rate for the 40-year debentures was to be the rate paid over the 10-year period immediately preceding, and that

debentures and stock were to be a charge on Consolidated Revenues. The amendments also confirmed that the fiscal year ended October 31 and that actuarial valuations were required triennially beginning July 1, 1948. Unless otherwise stated interest on payments into and out of the fund (other than benefits) was to be 4-3/4 per cent per annum compounded half-yearly on any payments not less than six months in arrears. The Act of 1949(174) provided that the interest rate on debentures maturing in 1952 should be lowered to 4-1/2 per cent, similarly for the 40-year debentures to be issued in 1952, for those maturing in 1962, and for the 40-year debentures to be issued in 1962. Any fund deficiency was to be made up from Consolidated Revenues, the next actuarial valuation was to be July 1, 1951, and the annual report had to be tabled in the legislature by the Treasurer. The following year the interest rate for the 10- and 40-year debentures was to be the rate approved by Lieutenant-Governor in Council and agreed to by the Treasurer and the Commission.(175) The 1953 amendments(176) stipulated that any credits to the fund were to be credited as of June 1 with interest at 4 per cent from date to the end of the fiscal year in which they were actually received. In 1955(177) provision was made for short-term (under 12 months) investment of the funds "in any securities in which the Treasurer may invest the public monies of Ontario." In 1966 the interest rate was raised to 5 per cent unless specified otherwise.(178) The amendments of 1971 allowed withdrawal of earlier issues of debentures maturing in 1942, 1952, 1962, and 1972 and their reissue with 6 per cent interest. Provision was also made to issue future debentures for not less than 20 and not more than 25 years, with interest to be the weighted average yield to maturity of long-term securities issued during the next preceding fiscal year.

Plan Administration

The original Commission's five members were to approve benefits and administer the plan; they consisted of one actuary and two other members appointed by the Minister of Education, one of them to be chairman for a three-year term, and two members elected by and from the membership of the Ontario Education Association. The amendments of 1919(179) stipulated that administrative costs were to be borne by the provincial Consolidated Revenues but in the following year, in concert with major legislation regulating the fund, as explained, this was revoked and all payments and administrative costs were to come from the fund.(180) In 1935(181) it was provided that the audit costs should come from the fund as well, rather than from Consolidated Revenues as had been the case. The 1938 amendments(182) expanded the Commission to seven, by allowing for one further appointment by the Minister, all appointees to serve for three years, and by increasing the elected membership to three, with the following provisions: three teachers or inspectors who were members of the Ontario Education Association and contributed to the fund were to be elected for three-year terms, one by and from the secondary school members in 1938, one by and from the public separate school male members in 1939 and one by and from the public separate school female members in

1940. In 1941(183) the amendments allowed future elected members to have similar staggered terms, and in 1943 the requirement that the elected be members of the OEA was dropped, although they still had to be contributors to the fund. In addition, the 1943 amendments provided for terms as follows:

- one member by and from the public and separate school female teachers and inspectors during April and May 1943;

- one by and from the secondary school teachers and inspectors during April and May 1944;

- one by and from the public and separate school male teachers and inspectors during April and May 1945;

and so on for each succeeding triennium. Vacancies were to be filled within six months.(184) The 1946 legislation(185) established dates when the Commission should meet, determined that five members constituted a quorum, and provided for the appointment of a Secretary by the Commission. The 1949 act(186) again expanded the Commission, with five members to be appointed by the Minister for terms of three years (the fifth to be appointed as of June 1, 1950) and four to be elected by and from contributors to the fund as follows:

- one by and from the Federation of Women Teachers' Associations of Ontario, for a three-year term commencing June 1, 1949;

- one by and from the Ontario English Catholic Teachers' Association and L'Association de l'enseignement francais de l'Ontario, for a three-year term commencing June 1, 1950;

- one by and from the Ontario Secondary School Teachers' Federation, for a three-year term commencing June 1, 1950;

- one by and from the Ontario Public School Men Teachers' Federation and male public school inspectors, for a three-year term commencing June 1, 1951.

Members became eligible for re-election or re-appointment. Six members constituted a quorum. In addition, provision was made for the appointment by Lieutenant-Governor in Council of a secretary, actuary, solicitor, medical referee, and other officers and staff thought necessary, with expenses to be paid from the fund. This situation continued until 1959(187) when the Commission was again expanded, to six members to be appointed by the Minister and five to be elected by teachers' organizations as designated in the regulations. Quorum was eight members. In 1966(188) the term "actuary" was defined as a Fellow of the Canadian Institute of Actuaries, and the secretary was supplanted by a "director" of the Commission. The current Commission remains at 11 members as described above.

ONTARIO MUNICIPAL EMPLOYEES RETIREMENT SYSTEM

Although the second largest public sector pension plan in terms of covered membership, the OMERS plan is of comparatively recent origin. The legislation governing it(189) was passed during the 1961-62 session, and employee and employer were defined as follows:

1. e) "employee" means any person who is employed by an employer but does not include any person who contributes to a pension plan under the Teachers' Superannuation Act, the Power Commission Insurance Act, or the Public Service Superannuation Act;

f) "employer" means a municipality or local board.

The legislation provided for a board to be set up to manage and administer the system, and to appoint a secretary-treasurer, auditor, actuary and such legally qualified medical practitioners, advisers, and employees as necessary. An annual report was to be provided to the Minister to be tabled in the legislature; an actuarial valuation was required at least every three years, and any surplus in the fund was to be transferred to the Treasurer of Ontario. The fund's investments were to be in the form of Ontario debentures maturing December 31, 1973 and bearing interest at the rate of 5 per cent payable half-yearly; at December 31, 1973 a 40-year issue was to be made bearing 5 per cent payable half-yearly, and further debentures issued for the next 10-year period, in the manner outlined for investments under the Teachers' Fund.

The major provisions of the OMERS plan are contained not in legislation but in regulations, and as a consequence the remaining provisions of the plan at inception were outlined in Regulation 168/62. It provided optional membership for employers, and coverage of full-time employees of participating employers where 75 per cent of the employees indicated the desire to join. Coverage was within one year of hire for new employees. Contribution rates depended on retirement age which was normally 65 except for police and firefighters who retired at 60; the rate was 5-1/2 per cent of earnings for those with normal retirement at 65, and 6-1/2 per cent for the others. Provision was made for prior service credits. The employer matched contributions on a varying rate depending on the requirements of the fund. The pension benefit was 2 per cent of contributory earnings multiplied by years of service, and payment began on the first day of the month after the month of retirement. For those terminating before normal retirement age a deferred pension of 2 per cent of contributory earnings was available, and actuarially-reduced pensions could be taken for early retirement up to 10 years before normal retirement age. Bridging provisions were available until age 70 when the Old Age Security became payable. In cases of retirement or death before pensionable age, contributions were returned with interest at 3 per cent compounded annually.

A disability pension, also at the rate of 2 per cent of contributory earnings, was payable in the case of persons with 10 years' service, but benefits were integrated with any payments from Workmen's Compensation to a maximum of 75 per cent of the monthly rate of earnings just prior to disability.

A surviving widow was entitled to a 50 per cent pension (1 per cent of contributory earnings) reduced by 2 per cent per year for each year the widow's age was below the member's normal retirement age. No benefit was provided for a widow who married the member after his 60th birthday or after the start of retirement. The benefit was payable to surviving children up to age 18 if the widow died or remarried, or if the wife had predeceased the member.

The terms of membership of the board were outlined: it was to comprise three officials of the province, two members of a local or municipal board, and four plan members, two of whom were to be municipal treasurers. Terms were for three years on a staggered basis - one-third of members to serve for three years, one-third for two years, and one-third for one year. Terms were to be served until members were replaced. Quorum was determined as a majority of members. The board elected its chairman and vice-chairman; the secretary-treasurer was appointed and was in charge of the fund.

The changes made since 1961 are outlined in the following sections.

Benefits

A regulation in 1965(190) amended the pension to provide a maximum of 2 per cent of contributory earnings multiplied by years of service less payments under any prior service plan or contributions with interest, still at 3 per cent. Later in the same year the benefit formula was expressed as the percentage of contributory earnings that bears the same ratio to 2 per cent as the percentage of earnings contributed bears to 5-1/2 per cent or 6-1/2 per cent, depending on normal retirement age.(191) The bridge with Old Age Security remained, on an optional basis.

The following year, reflecting the introduction of the Canada Pension Plan, the formula was amended to either 2 per cent of contributory earnings multiplied by years of service less .55 per cent (for those with a normal retirement age of 65) or .46 per cent (for those with normal retirement at 60) of earnings up to the YMPE for earnings since January 1, 1966, or the transferred-in benefits from another plan, whichever was greater.(192) A bridge payment of 2 per cent of contributory earnings until CPP became payable was introduced.

In 1968(193) the formula was enriched from 2 per cent to 2.2 per cent of contributory earnings after January 1, 1968, reduced for each year in the same proportion that the contributions of the member in that

year are reduced to 4 per cent if normal retirement age is 65 and to 5 per cent if normal retirement age is 60. The bridge for CPP payments incorporated the 2.2 per cent formula.

While the formula remained the same, an amendment in 1971(194) added 10 per cent of pension calculated on contributions before January 1, 1971, as an enrichment, and at the same time increased pensions in pay before that date by 10 per cent. The following year the calculation was again enhanced by an increase of 5 per cent of pension on earnings prior to January 1, 1972, and by a similar increase granted to pensions in pay before that date.(195) Similar increases of 5 per cent were granted effective January 1, 1973(196) and January 1, 1974(197); an increase of 10 per cent was instituted as of January 1, 1976.(198) In 1977 the benefit formula was simplified to 2 per cent of contributory earnings multiplied by years of service to a maximum of 35, less .7 per cent of contributions up to the YMPE. The plan changed from a career average to an average best formula, based on the best 60 months of continuous service. Finally, an increase of 3 per cent was made to the pension calculation and to pensions being paid in 1978.(199)

Employers may elect to provide supplementary benefits, upon entering into an agreement with the board. In addition, optional service is allowed, with back contributions as described in the following section. Benefits in such cases are determined in the agreement with the board, but in no cases may the total exceed the maximum established by the Municipal Act.

Eligibility

Membership continued to be based on the formula of 75 per cent of employees wishing to join; in 1964 a legislative amendment expanded coverage to include district assessors,(200) and in 1965 the "Power Commission Insurance Act" was deleted from the definition of employee.(201) A regulatory change in 1967(202) provided that coverage for those employed before July 1, 1968 was to be immediate; for those employed after that date a maximum waiting period of 12 months applied. In 1972 it was provided that part-time employees might be covered by agreement if the members warranted it,(203) and municipal councillors were included.(204) A legislative amendment in 1976(205) allowed optional service to be counted in the plan, and covered service in any municipal or local board in Canada, the civil service of Canada or any of the provinces, any board, or commission of Canada or the provinces. Also included was war service, which was defined as service in World War II or Korea in the navy, army, air force, Canadian, or British merchant marine or any ally designated by the Lieutenant-Governor in Council. An amendment in 1977 allowed for immediate coverage for continuous full-time employees hired on or after January 1, 1978.(206)

Contributions

The original rates of 5-1/2 per cent of earnings for those normally retiring at 65 and 6-1/2 per cent for the rest was amended in 1965(207) to recognize the CPP structure; from that time the rate was 4 per cent up to the YMPE and 5-1/2 per cent thereafter (normal retirement at 65) and 5 per cent up to the YMPE and 6-1/2 per cent thereafter (normal retirement at 60). At the time the benefit formula moved to an average best basis, the contributions were changed to 5-1/2 per cent to December 31, 1977 and 7 per cent thereafter less 1-1/2 per cent up to the YMPE (for normal retirement at age 65) and to 6-1/2 per cent to December 31, 1977 and 8 per cent thereafter (for normal retirement at age 60), also less 1-1/2 per cent up to the YMPE.(208) It was stated that the new rates did not override the terms of any collective agreement in existence, and in cases where the employees' contributions would fall short, the employer was to make up the difference until a new contract was agreed upon.

In 1966 a penalty of 1 per cent per month for late payment of employer contributions was imposed.(209) Allowance was made for prior service contributions with interest at the rate of Ontario debentures in the month of contribution. In 1976 the rates of contribution for optional service were set at 11 per cent for persons normally retiring at 65 and 13 per cent for persons with normal retirement at 60 (employer-employee share) plus interest at 6 per cent per annum.(210)

Vesting and Locking-in

The original provision for a deferred pension (immediate vesting) continued until the advent of the Pension Benefits Act. In 1965, with the statutory provision of age 45 and 10 years' service, contributions were locked in.(211) The interest payable in cases of refunds of contributions remained at 3 per cent until 1977 when it was set at 3 per cent to December 31 of that year and 5 per cent thereafter, compounded annually.(212)

Portability

At the time of its inception the OMERS plan recognized an added benefit of portability of pension credits: "It was felt that a large pension system allowing portability...would encourage employee mobility and thus help develop and increase the supply of experienced municipal employees."(213) Apart from portability between municipalities and local boards in Ontario, transferability to other bodies was soon incorporated. When transferability to public service plans was instituted in 1965, the benefit was the greater of contributions with interest or the present value of a retirement pension.(214) This system continued with provisions for optional service as outlined in the section on contributions, until an amendment in 1977 allowed for transfers to any fund permitting such transfers.(215)

Retirement Age

Since inception, the normal retirement age has been 65 for all employees except police and firefighters who may retire at 60. Actuarially reduced pensions are available for early retirement up to 10 years prior to normal age.

Survivor Benefits

The pension payable to a widow continued to be 50 per cent of the accrued benefit until 1966(216) when it was was reduced by 2-1/2 per cent for each year she was younger than the deceased member; children under 18 of a member (including a female plan member who was supporting them) received 50 per cent of the accrued benefit divided among them. In 1970,(217) a regulation extended benefits to dependent or disabled widowers of plan members, and children's benefits to those under age 21 if attending school or university full-time. In 1972 the restrictions on widowers were lifted and benefits became payable on the same terms as to widows; the children's benefit was increased by 10 per cent of the pension amount with a ceiling on the total increase of 25 per cent of the pension being paid.(218) Later in 1972 the increase was raised to 20 per cent, maintaining the ceiling of 25 per cent of pension.(219) Beginning in 1974(220) the provision that a widow had to marry the member before his 60th birthday was removed, but the marriage still had to take place before receipt of pension. Amendments in 1977(221) removed the education restricton on children's benefits which became payable up to age 21; survivor benefits were integrated with CPP provisions; the surviving spouse pension remained at 50 per cent of the actual or accrued pension of the deceased member, reduced by 2-1/2 per cent for every year the survivor was more than 10 years younger than the deceased. The child's benefit was increased by 20 per cent, to a total maximum of 50 per cent of the pension in pay. Provision was made for the recalculation of benefits in cases of early retirement before January 1, 1978 as if the retirement pension had not been reduced for early retirement.

Disability Benefits

The original provision of a disability pension after 10 years of service continued unchanged until 1966(222) when disability was required to be "total and permanent." This was defined as:

> "if found by the secretary-treasurer, on the advice of a legally qualified medical practitioner appointed by the Board to be incapable of engaging in gainful employment during the remainder of his lifetime because of mental or physical impairment of the member."

The pension was payable on the first of the month following the month of termination or approval of the claim, whichever came later. In cases where disability ceased the pension was suspended.

In 1975(223) it was provided that persons in receipt of disability pensions, Workmen's Compensation, or Unemployment Insurance benefits continued to be considered employees for purposes of contributions. The maximum pension from OMERS disability and Workmen's Compensation continued to be 75 per cent of monthly earnings prior to disability. In 1977 the definition of "totally disabled" was amended to read:(224)

> "wholly prevented due to mental or physical incapacity from performing the regular duties of the occupation in which such member was engaged immediately prior to such date, and such disability shall be considered to continue if the member is so prevented during the first twenty-four month period immediately after such date, and, thereafter, such disability shall be considered to continue if the member is wholly prevented from engaging in any occupation or performing any work for compensation or profit for which the executive-director, on the advice of a legally-qualified medical practitioner appointed by the Board, considers the member is or may become reasonably qualified by education, training, or experience."

Persons could not qualify for payment under this definition if they worked for pay somewhere other than in a rehabilitation program; if, in the case of mental illness, they were not confined for treatment after one year, if the injuries resulted from self-inflicted wounds; or if they were disabled before completion of one year's service. The pension continued to be calculated on the basis of the normal retirement pension, and was payable from the fifth month after declaration of disability. Disability and Workmen's Compensation benefits together could not exceed the monthly rate of earnings just prior to disablement. Retirement pension benefits continue to accrue during disability.

Fund Investments

The original provisions for funding whereby Ontario debentures bearing 5 per cent and maturing at the end of 1973 would be issued continued in force until 1968.(225) A legislative amendment in 1968 stipulated that the debentures issued after January 1, 1968 and maturing on December 31, 1977 should bear interest at 6-1/2 per cent per annum payable half-yearly. The same rate was to apply to the 40-year debentures issued to the year 2013. In 1970(226) it was provided that debentures issued to the end of 1969 should continue to fall due in 1973 and carry 6-1/2 per cent interest, but those issued from 1970 on should be for periods of not less than 20 and not more than 30 years, and carry interest at least as high as the weighted average of bonds issued each year. When the various debentures became due in 1973, authority was given for their reinvestment at varying rates of interest ranging from 5.49 per cent per annum payable half-yearly for those issued in 1963 to 8.19 per cent for those from 1969, and all were reinvested for a 30-year period.(227) In 1974, following the establishment of an investment policy committee of the board, it was provided that in future funds

could be invested in public markets subject only to the conditions of the Pension Benefits Act.(228)

Plan Administration

The original board of nine members continued until 1967, though in 1965 a legislative amendment had expanded their powers and authorized them to manage funds other than OMERS.(229) In 1967(230) the membership was expanded to comprise four officials of the province, two councillors of a participating municipality or local board, and five employees, of whom two were to be treasurers. All were appointed by Lieutenant-Governor in Council for up to three-year staggered terms so that four members held office for three years, three for two years, and four for one year. In 1970(231) the employee membership was expanded to five, two of whom were to be officers of their municipality or local board. In 1974(232) the provincial representation declined from three to two and the employees added a member, to a total of six, still with the requirement that two be officers of their municipality or local board. Terms were set at three years or less, until successors were appointed. Amendments of 1975(233) added the position of executive director and outlined the duties for the position, and determined that the board should forward its annual report to every participating employer and to employees on request. In 1976(234) the employee representation was raised to seven, two of whom were to be officers of their municipality or local board, while the province continued to have two members. The investment policy committee, established in 1974, continues.

HOSPITALS OF ONTARIO PENSION PLAN

When the plan was conceived in 1959 a majority of the 168 hospitals in Ontario did not have pension plans; those which did frequently provided inadequate benefits. It was therefore judged appropriate to set up an industry-wide plan that would ensure adequate benefits, provide for portability within the industry, obtain economies of scale in administration, and provide uniformity and stability in pension costs. The plan operates as a multi-employer plan.

The Hospitals of Ontario Pension Plan (HOOPP) plan was established on January 1, 1960. It provided to full-time employees a basic pension of 2 per cent of the accrued career earnings, with provision for past service based on an accrual rate of 1 per cent of 1959 earnings multiplied by years of service before 1960, less two years. Options at retirement included a five-year guarantee, 10-year guarantee, integration with Old Age Security (then payable only at age 70), or a 50 per cent joint survivorship option, all adjusted actuarially. Normal retirement age was 65, but voluntary early retirement was possible at age 55 or over after 10 years' service, with pensions reduced by 6 per cent for each year the retiree was below age 65. With the permission of the employer, retirement could be postponed beyond 65.

The plan was contributory, with employees paying 5 per cent of earnings and the employer paying one and one-half times that rate. Additional voluntary contributions were permitted. A disability benefit was available to employees age 55 and over with a minimum of 10 years' service with benefits reduced 3 per cent for each year of retirement before age 65.

Benefits vested after 10 years of service, and contributions earned interest of 3 per cent per annum. The normal death benefit was a return of contributions with interest less any benefits paid.

The plan comes under the authority of the Board of Directors of the Ontario Hospital Association which, at its inception, established a Pension Committee to administer the plan. The plan is trusteed and monies are invested on the open market. Outside pension consultants have also been retained since inception.

Features of the plan as they have evolved over the intervening years are outlined in the following sections.

Benefits

With the introduction of the Canada Pension Plan in January 1966 the HOOPP was amended to provide a benefit at normal retirement of 1.4 per cent of the average earnings up to the YMPE and 2 per cent thereafter. The past service benefit for service prior to January 1, 1960 remained unchanged. In 1968 the plan was changed from a career average to a final average basis, dependent on the 15 consecutive years with the highest annual average earnings. The basic calculation then moved to 2 per cent of final average earnings for each year of service between 1960 and 1965 inclusive, and 1.4 per cent to the YMPE and 2 per cent thereafter for each year of service after 1965. Benefits for service before January 1, 1960, for employees terminating on or after January 1, 1968, increased to 1-1/2 per cent of 1959 earnings.

In 1971 the basis of calculation was reduced from the best 15 consecutive years' service to the best 11 years, using the best 11-year average as the average YMPE. In 1974 the average period for YMPE average was reduced to the three years preceding death or retirement, and the average earnings basis reduced from 11 to five consecutive years.

In April of 1979 ad hoc increases to pensioners who retired before 1979 averaged 22 per cent of pension.

Eligibility

The plan is open to full-time permanent employees who may elect to join after six months' service but who must join after two years' service.

Contributions

Integration with the Canada Pension Plan in 1966 set employee contributions at 3.5 per cent up to the YMPE and 5 per cent thereafter, or 5 per cent for those not contributing to CPP. In 1974 the rate increased to 4.5 per cent up to the YMPE and 6 per cent thereafter.

Employer contributions, at one and one-half the employees' rate measured 7.5 per cent of payroll in the first 18 months of operation. Effective January 1, 1966 this was amended to 1.7 times the employee rate.

Vesting and Locking-in

With the enactment of the Pension Benefits Act in 1965 an optional deferred pension was provided for employees under age 45 with 10 years' service; otherwise, the mandated locking-in applied. Terminated employees who elected a refund of contributions and after a break of six months, are employed with another hospital, are treated as new employees.

In 1971 an amendment provided that refunds on contributions made before December 31, 1970 earned 3 per cent per annum, while contributions after that date earned 5 per cent compounded annually.

Voluntary contributions are also refundable, with interest based on the rate of return on investments: 5.25 per cent in 1968-1972; 6 per cent in 1973; 7.5 per cent in 1974; and 9 per cent in 1975.

Portability

Service credits are fully portable between member hospitals provided the break in service is less than six months. Reciprocal agreements exist with the federal and Ontario governments and their agencies, and with the following bodies; Toronto Western Hospital, the Hospital for Sick Children, the Ontario Cancer Institute, McMaster University Medical Centre, the Workmen's Compensation Board, and the Colleges of Applied Arts and Technology.

Retirement Age

Normal retirement age remains 65, but provision is made for contributions and service to continue to age 70, at which time benefits must be paid.

In 1974 unreduced benefits were allowed for employees aged 62 with 20 years of service. Early retirement is also permitted for employees aged 55 or more with 10 or more years of service, with pension based on accrued benefits to normal retirement reduced by .5 per cent for each month by which retirement precedes age 65.

Survivor Benefits

In 1968 the optional joint and survivorship pension was superseded by a survivor's and orphan's pension that provided 50 per cent continuation of the accrued pension benefits at date of death to a widow or disabled, dependent widower. If no widow or disabled widower existed the 50 per cent benefit was payable to orphans up to age 18, or 21 if in school or university full-time. The structure of payments was altered to provide three optional forms of payment: an immediate life annuity with or without a guaranteed period (to a 15-year maximum); instalments over a maximum of 10 years; or a lump sum. In 1976 benefits to surviving spouses of female plan members were made the same as for the spouses of males.

Disability Benefits

In 1968 the plan was amended to allow for the accrual of pension benefits during receipt of disability benefits from the Hospitals of Ontario Disability Income Plan. In 1974 this provision was repealed, thereby allowing employees over age 55 with 10 or more years service to receive pension benefits as well as the disability payments if they elected to retire. The former maximum salary for contributions while on disability leave was rescinded.

The pension itself was modified in 1974 to allow for reduction of benefits from age 62 rather than 65. It was available to members age 45 and over rather than 55.

Fund Investments

The two original trustees of the fund administered the investments in approximately equal amounts. At the end of the first 18 months the fund amounted to $8,744,878, and earnings net of trustees' expenses amounted to 4.96 per cent per annnum.

At the end of the fifth year of operation (June 30, 1965) the fund amounted to $46,243,854, and earned 5.08 per cent net of trustees' expenses. By 1970 a third trustee had been engaged - with a trust company acting as custodian for the new trustee's share of the fund. Investments continued to be administered in approximately equal amounts. At the end of 1970 (the plan fiscal year end now being December 31) the fund totalled $133,962,493, and earned 2.89 per cent net of trustees' expenses, compared with 4.16 per cent for 1969.

Effective January 1, 1976 National Trust became sole trustee for the fund which, at December 31, 1975 stood at $369 million. However, investment responsibility remained in three parts - National Trust, Toronto Investment Management Incorporated, and the Investment Section of the Ontario Hospital Association.

At the end of 1978 the fund had expanded to $758 million with overall yield for the year at 11.8 per cent. The four-year average yield stood at 12.8 per cent.

Plan Administration

The original Pension Committee consisted of a chairman, vice-chairman, secretary, and four other members. By 1965 the position of vice-chairman had been dropped but total membership remained at seven. Five years later the committee had grown to twelve members, and at present stands at fourteen, as follows: seven chief executive officers, five trustees of hospitals, and two representatives of the Ministry of Health.

Detailed administration is carried out by the Pension and Group Life Services Staff of the Ontario Hospital Association under the direction of the Pension Committee.

ONTARIO HYDRO

Provisions of the original pension plan and most subsequent amendments were made by Order-in-Council rather than by legislation. Since regulations in Ontario were not consolidated until 1950, details of the earlier provisions are not easily determined. Therefore the information concerning early years is subject to errors and omissions, though the broad outlines are sufficient to establish the trends in the plan provisions.

An amendment to The Power Commission Act in 1919(235) added the authority to provide

> "....for the payment to permanent employees of the Commission, of superannuation and retiring allowances, or of a gratuity or annual allowance to the dependents of employees dying while in the service of the Commission, and a fund for providing sick benefits for permanent employees, and....provide for contributions to such fund by the Commission and by its employees, or for the establishment and support of such fund entirely at the cost of the Commission."

Municipal employees of power commissions could also be included in any such scheme.

It was not until 1923 that such a plan came into existence when Order-in-Council of October 29 established the effective date of the plan as November 1, 1923 and set the following provisions:

- the plan covered all permanent employees as of the effective date; new permanent employees under age 30 could join subject to

a medical examination and those over 30 could join at the option of the Commission;

- the plan was contributory, with members joining on November 1, 1923 paying 3 per cent, and those joining after that date paying according to a sliding scale based on age at entry to the plan; (236)

- retirement age was 65 for all members;

- early retirement pensions were available in cases where management requested the retirement, and were based on 20 years' service and age 60 for men, 50 for women, with no actuarial reduction;

- postponed retirement was available by agreement between the Commission and the employee; contributions continued and benefits accrued;

- disability benefits that were available to employees with 10 years of service, at the Board's option, were the actual retirement benefit accrued without actuarial reduction. Benefits were to be integrated with Workmen's Compensation payments where applicable;

- the pension formula was one-eightieth of the average salary in the highest five consecutive years multiplied by service, with a minimum pension of $365 per year;

- in cases of death prior to retirement, payment to the estate was 5 per cent of current annual salary multiplied by years of service plus one year's current salary, the total not to exceed twice the current salary. For death after retirement, the payment was the difference between pension already paid and the amount that would have been payable had death occurred prior to retirement;

- upon termination of employment for reasons other than retirement or disability, contributions were returned with credited interest at 4 per cent compounded annually;

- leave of absence was provided to seasonal employees and those entering military service; contributions remained in the fund and a right to benefits was maintained.

Changes in the plan provision since its inception are outlined in the following sections.

Benefits

By Order-in-Council in 1926(237) the benefit formula remained the same, but the minimum pension of $365 per year was applied only to those employed as of November 1, 1923 and those under age 30 who joined later; no minimum was provided for new members over age 30 joining after that date. In 1938(238) the formula was increased to one-seventieth times the average salary for the highest five consecutive years, and the minimum pension was raised to $500 per year for employees at November 1, 1923 and persons under age 30 joining afterwards. Beginning in 1940(239) the plan moved to a career average basis and the minimum pension continued at $500 unless the career average was less than $1,000, in which case the minimum was to be 50 per cent of that amount. A minimum period of 20 years' contributory service was established to qualify for a pension. An amendment on November 1, 1947 changed the formula to 1-1/2 per cent of annual salary to August 1, 1947 multiplied by the years of contributory service to November 1, 1948. A year later it was again changed, becoming 1-1/2 per cent of base annual earnings (excluding such payments as overtime or isolation allowances) as of August 31, 1948 multiplied by the years of service to November 1, 1948 (known as the "effective date" of the plan for future amendments). The formula for service after this effective date was 2 per cent of total career earnings to the date of retirement. The plan had a five-year guarantee feature, as well as a single life annuity or contingent annuity option.

An amendment by way of regulation,(240) effective October 1, 1951 changed the formula to 1.5 per cent of maximum base annual earnings during the five-year period immediately preceding September 1, 1948 multiplied by established service, plus 2 per cent of earnings in respect of which contributions have been made after the "effective date" (November 1, 1948). In cases of normal retirement before November 1, 1953 the pension was not to be less than the amount that would be payable under the new fund. For regular employees, "service" included 50 per cent of their employment period from January 1, 1930 to the date of last being employed or age 45, whichever is later. The next amendment came in 1958(241) and applied to persons retiring at their normal retirement date on or after January 1, 1957. Established service for purposes of calculation was service before that date. The benefit formula was as follows:

- 1.5 per cent of average base annual earnings at July 1, 1955 and July 1, 1956 muliplied by service to October 31, 1948, plus

- 2 per cent average earnings at July 1, 1955 and July 1, 1956 multiplied by service from November 1, 1948 to December 31, 1956 or to normal retirement if earlier, plus

- 2 per cent of "premium earnings" from November 1, 1948 to December 31, 1957 (being the excess of earnings over base earnings for the months of November and December 1948 and the excess of

earnings over base annual earnings at July 1 in each year 1949 to 1956 inclusive and the excess of earnings over base earnings for 1957), plus

- 2 per cent of base contributory earnings from January 1, 1957 to the normal retirement date.

The total pension in this case should not be less than that produced under the old calculation method. In 1962(242) the formula was again amended for those retiring on or after January 1, 1962:

- 1.5 per cent of the average base earnings in the highest consecutive 60-month period multiplied by service to October 31, 1948, plus

- 2 per cent of "premium earnings" from November 1, 1948 to December 31, 1957, plus

- 2 per cent of the averge base earnings in the highest consecutive 60-month period multiplied by the sum of

  a) established service from November 1, 1948 to January 1, 1957,

  b) contributory employment thereafter,

  c) in the case of Continuing Construction Employees (temporary) the period after January 1, 1957 during which they contributed at the rate of 5 per cent and half the period after January 1, 1957 when they contributed at 2-1/2 per cent.

The total in cases (a) and (b) was not to exceed 70 per cent of the average base earnings in the highest consecutive 60-month period. A further regulation in 1965(243) maintained the benefit formula as the highest 60-month average but provided that in the light of the newly-formed CPP, pensions should be reduced by .7 per cent on earnings up to the YMPE for service after January 1, 1966. In 1967(244) the provision was amended to allow for a reduction of .625 per cent on earnings up to the YMPE after January 1, 1966 but stated that no reduction should be made until the pension became payable. In 1971(245) the formula was simplified to one of

- 2 per cent of the average base earnings in the highest 60 consecutive months (to a maximum of 70 per cent of best earnings) plus

- 2 per cent of premium earnings between November 1, 1948 and December 31, 1957, minus

- .625 per cent multiplied by earnings up to the YMPE after December 31, 1965.

Several improvements to pensions already being paid have been made since the beginning of the current plan in 1948. On January 1, 1957 an increase of 50 per cent was made to pensions of members who retired before November 1, 1947, and an increase of 15 per cent to pensions of those retiring between October 31, 1947 and January 1, 1957.(246) In 1967(247) an increase of $1 per month for each year of service to a maximum of 25 was granted to pensioners who retired prior to January 1, 1962, and in 1968(248) it was provided that contingent annuitant payments should reflect the maximum pension available. A further increase granted in 1971(249) increased pensions (including widows, disabled widowers, children, and contingent annuitants) by 2 per cent for each year of retirement and an additional 1 per cent for each retirement year before 1962. In 1973(250) a further increase of 2 per cent for pensions where payment began in 1971 and 4 per cent for 1970 and earlier was made to all retirement survivor and contingent annuitant pensions. This increase applied notwithstanding the existence of a bridging benefit for OAS or CPP. As of January 1, 1974(251) pensions which began in 1973 were increased by 4 per cent and those commencing in 1972 and before increased 8 per cent, the increases applying notwithstanding any bridge benefit. A further increase a year later(252) raised pensions by 8 per cent where the member retired or died while employed before January 1, 1974. This increase was prorated where retirement or death while employed occurred during the calendar year 1974. Again on January 1, 1977(253) an 8 per cent increase was made where the member retired or died in employment before January 1, 1975, and a pro rata benefit was paid for members retiring or dying while employed during 1975 and 1976, based on the number of months' pension paid in those two years. The latest increase of 8 per cent occurred on January 1, 1979,(254) for members who retired or died during employment prior to January 1, 1977, and was prorated, based on the number of months of pension payment in 1977 and 1978 where the member retired or died while employed in that time.

Eligibility

An Order-in-Council in 1926(255) which extended membership to permanent employees up to age 45 who joined after November 1, 1923, also required a medical examination. The plan which came into effect on November 1, 1948 applied to all regular employees and all members of the Pension Fund and the Savings and Retirement Fund. Employees electing not to join received a refund of past contributions with interest at 3 per cent compounded annually. The medical requirement was revoked except for employees who had previously decided not to join and subsequently sought membership. An amendment to The Power Commission Act in 1949(256) defined "employee" as someone employed by the Commission on or after November 1, 1947, and made provision for the protection of pension credits of employees of some bodies previously under the jurisdiction of

the Commission. In 1960(257) "continuing construction employees," meaning temporary employees under age 55 in the case of men and 50 in the case of women and employed for five consecutive years at a minimum of 75 per cent of normal working hours, were permitted to join, and monies already contributed to the Savings and Insurance Plan were transferred to the pension plan. Service for these members was counted at 50 per cent of the time they were contributing at 2-1/2 per cent of earnings (to the Savings and Insurance Plan) and 100 per cent of the time they were contributing at 5 per cent (to the pension plan). In 1967(258) a regulatory change reintroduced the requirement for a medical examination in the case of new employees. Temporary employees who were members of the Office and Professional Employees International Union (OPEIU) became eligible to join on July 1, 1967 or one year after hire, whichever was later, and providing they had been employed without interruption. In 1968(259) a legislative amendment redefined "employee" as someone who had contributed and had been employed on or after November 3, 1947. Beginning in 1971(260) membership was made compulsory for new regular employees. An employee for whom OPEIU was the bargaining agent was covered after six months if employment had been substantially without interruption.

Contributions

While the original legislative authority for the plan allowed it to be non-contributory, in fact employee contributions have been a feature since inception. The record of any changes in rate between 1923 when the plan went into effect and 1950 when regulations were first consolidated is blank, but we find that by 1950(261) contributions, made by payroll deduction, were set at 5 per cent for all employees. With the advent of the Canada Pension Plan in 1965, contributions were integrated beginning on January 1, 1966(262) and set at 3.416 per cent up to the YMPE and 5 per cent thereafter. In 1967(263) the percentage payable up to the YMPE was raised slightly to 3.4375 per cent, a level that remains in effect currently.

The regulation of 1950(264) relating to the plan established on November 1, 1948 allowed for back payment of contributions, with interest at 3 per cent compounded annually in cases of re-employment although service benefits did not accrue for the time absent. In 1967(265) the time within which a re-employed person might elect to make back payments was set at a year. In 1971(266) the rate of interest on repayments was set at 4-1/2 per cent from the date contributions were withdrawn from the fund. In January 1979(267) provision was made for anyone who made any permissable withdrawal from the fund and who is rehired within one year to repay the amount withdrawn at current rates of interest.

The leave of absence provisions in the original plan were qualified in 1926(268) so that to maintain credits during any leave over one month the member had to make contributions plus 5 per cent for the

employer portion. The 1948(269) plan provided that if the employee was on leave without pay no contribution could be made; if on leave with pay then contributions continued. However it was provided that persons on leave without pay who received Workmen's Compensation should have those payments, or any payments equivalent to earnings, count as earnings. An amendment by regulation in 1967(270) provided that while on leave of absence with pay, contributions should continue; on leave of absence without pay for non-medical reasons, no contributions would be made nor credits accrue, but back payment might be made upon termination of the leave. In cases of medical leave the member had the choice of making up contributions. In 1975,(271) following the introduction of a long-term disability plan, it was provided that pension benfits should accrue during such disability with no employee contribution required.

The legislation of 1949(272) set the employer contributions as the difference between employee contributions and the cost of benefits; the same terms apply currently.

Vesting and Locking-in

Vesting as a concept was not featured in the plan until 1948. The original provision for a return of contributions in the 1923 plan was amended by Order-in-Council in 1926(273) to allow the 4 per cent interest to be compounded semi-annually. This amendment remained in force until the introduction of the new plan in November 1948. Regulations(274) then provided that employees terminating with at least 15 years' service who were within 10 years of their normal retirement date could receive a deferred pension at normal retirement of the benefits accrued to the date of termination. Otherwise, contributions were returned with interest, at the rate of 3 per cent compounded annually on contributions to the current fund, and at 4 per cent compounded semi-annually on contributions to the superseded pension fund, and 3 per cent compounded semi-annually to the superseded retirement fund. An amendment to the vesting provision in 1955(275) allowed a deferred pension to employees with 10 years' service. The pension payable at the normal retirement date was 50 per cent of the accrued pension to date of termination plus 10 per cent of the accrued pension for each additional year of service in the five years immediately following the 10 years of service, at the rate of 1.5 per cent of earnings. Otherwise, contributions were returned with interest as outlined.

Following the introduction of the Pension Benefits Act effective 1965 which mandated the 45 and 10 vesting rule, the vesting provision of the Hydro plan for persons meeting these criteria took three forms:(276)

a) a refund of contributions made before 1965 with credited interest, and vesting of all benefits earned after January 1, 1965;

b) a refund of contributions made before 1965 with credited interest and a refund of 25 per cent of the commuted value of

credits earned after January 1, 1965, the remaining 75 per cent being vested;

c) a deferred pension of 50 per cent of credits earned to January 1, 1965 plus 10 per cent for each year of service over 10 (as described above) plus 100 per cent vested benefits for service after January 1, 1965.

For those with more than 10 years of service but under age 45 the options were as described in the 1955 provision - a 50 per cent pension plus 10 per cent for each year of service over 10 or a refund of contributions with credited interest. For those with less than 10 years' service, contributions were refunded with credited interest. Changes effective at the beginning of 1966(277) allowed for immediate vesting as an option after one year of service. The provisions were:

- for those with less than one year's service, a refund of contributions with credited interest;

- for those with more than one year's service, a refund of contributions with credited interest or 100 per cent vested benefit;

- for those with 10 years' service but under age 45, a refund of contributions with credited interest or 100 per cent vested benefit or 75 per cent vested benefit and a refund of 25 per cent of the commuted value of the pension;

- for those with 10 years' service over age 45, 100 per cent vested benefit or 75 per cent vested benefit and a refund of 25 per cent of the commuted value of the pension or a refund of contributions made before January 1, 1965 with credited interest and 75 per cent vesting of credits earned after that date and a refund of 25 per cent of their commuted value.

Effective January 1, 1970(278) the interest on the current fund was raised to 4-1/2 per cent compounded annually (the superseded funds remaining at 4 per cent and 3 per cent respectively) and to 6 per cent compounded annually from January 1, 1979.(279)

Portability

While the legislative authority for the plan, in 1919, allowed municipal employees to be covered, no formal transferability was featured in the plan until 1961.(280) Effective July 1, 1961 employees with five years' service transferring between Ontario Hydro and any municipality whose pension plan allowed for reciprocal agreements could use credits from both plans for the eventual pension. The following year the provision was amended so that employees transferring to a municipality before January 1, 1962 (when death benefits were amended) came under the old provisions. Employees who transferred after December 31, 1961 and

died while serving the municipality have a refund of contributions plus interest made to their beneficiary or estate. A regulatory amendment effective January 1, 1966(281) provided that employees transferring prior to that date would be covered under the provisions in force when the transfer was made; those transferring after December 31, 1965 must have contributed to the plan for one year to qualify. In 1971(282) provision was made for vested members who died while serving the municipality after July 1, 1970 to receive Ontario Hydro death benefits. Those vested before January 1, 1962 and who died while in the employ of a municipality had their service credits with the municipality to July 1, 1970 included for the calculation of death benefits under the pre-1962 conditions if a widow's or child's benefit was not payable.

In 1973(283) Ontario Hydro was permitted to enter into reciprocal transfer agreements with other employers, and to date has signed three such agreements: the Province of Ontario (1972), the Government of Canada(1972); and the Province of New Brunswick(1975). The following qualifications apply as of the date of the agreement:

- termination of employment with one of the employers must have been after the date of the agreement and re-employment must be within three months;

- no refund of contributions can have been received;

- must be eligible for membership in the new employer's plan;

- the request for transfer must be made within six months of the agreement or one year of joining the new plan, whichever is later;

- the first employer must then be released from any pension obligation.

Retirement Age

The normal retirement age of 65 has remained consistent for male employees throughout the life of the plan. For women, the age was set at 60 when the 1948 amendments took effect,(284) and women who were at least 60 years old on November 1, 1948 retired on that date. In 1965(285) it was stipulated that the age would be raised to 65 except for current OHEU members. In 1967(286) women could elect normal retirement between 60 and 65. In 1971(287) it was provided that males age 63 with 25 years' service could retire on full accrued pension. As of January 1, 1976(288) the age was set at 65 except for female employees hired before that date who could still retire at 60.

While the original plan had allowed for early retirement when requested by management, the amendment of 1926(289) allowed the board to reduce the service requirement from 20 to 10 years in such cases. In

1940(290) the provision changed to allow women at age 60 with 20 years' service to retire on an unreduced pension at the option of management. A reduced pension was available to women from age 50 with 20 years' service; for men the age was 55. When the 1948(291) plan came into effect male and female employees who were within 10 years of normal retirement and who had 15 years' service could retire on an actuarially reduced pension. Beginning in 1962(292) the reduction in pensions was changed from an actuarial basis to one of 2 per cent for each of the first five years below normal retirement and 3 per cent for each of the following five years, parts of years being calculated on a proportionate basis. The 1971(293) amendment allowing male members to retire at 63 with 25 years' service did so on an undiscounted basis. In addition, vested members terminating after December 31, 1970 and subsequently requesting early retirement would, upon approval of the application, be subject to a full actuarial reduction. The 2 per cent/3 per cent reduction formula continued in force for employees with 15 years of service who were within 10 years of normal retirement. However, in 1976(294) employees with 25 years' service could retire at age 60 without a reduction in pensions. The reduction betwen ages 55 and 59 was on a sliding scale from 3 per cent at 59 to 25 per cent at age 56.

Beginning in 1959(295) a bridging benefit to allow for pre-payment of benefits equal to Old Age Security in cases of early retirement was available; pensions were then reduced by $55 per month from age 70 to compensate for the pre-payment. In 1962(296) the reduction of pensions increased to $65 per month to match increases in the OAS payments, and to $75 in 1964.(297) Beginning in 1965(298) a bridge benefit was allowed for Canada Pension Plan benefits as well as OAS.

The 1948 plan provisions allowed for a postponement of retirement, if requested by the Commission. In such cases, no further contributions were required, and the pension commenced on the later retirement date.

Survivor Benefits

The formula for death benefits before retirement was amended by Order-in-Council in 1926(299) to provide for the payment of 5 per cent of the five-year highest average salary (or current year's salary if higher) multiplied by years of service plus the five-year average salary (or current year's if higher) to a maximum of twice the average or current salary. If death benefits were also available from Workmen's Compensation the total payment was not to exceed the maximum payment or one-third the amount payable under the Pension Regulations, whichever was greater. The 1948 plan(300) allowed for a return of contributions, to a beneficiary or the estate, with interest at 3 per cent. If the beneficiary was a spouse, child under 21, or certain other dependent relatives, the benefit was paid in minimum $50 instalments for 10 years, with interest.

A further amendment in 1957(301) allowed, in cases where an employee had at least 18 years of service, a payment to a beneficiary or the estate of contributions plus interest and a pension of 50 per cent of accrued benefits for service over 18 years on a month for month basis for a maximum of 60 months. In 1962(302) the provision was amended to provide for a return of contributions with interest for members with less than 10 years' service, and for those with more than 10 years who died before normal retirement, early retirement, or disability, either:

- 50 per cent of accrued benefits to the widow for life or until remarriage; or

- 50 per cent of accrued benefits to dependent children or orphans until the youngest reaches age 18 if there is no widow; or

- 50 per cent of accrued benefits to the dependent childen of female members until the youngest reaches age 18; or

- a return of contributions with interest.

The 50 per cent pension in all cases was not to be less than the contributions with credited interest. An amendment effective January 1, 1966(303) extended the surviving spouse pension to disabled, dependent widowers of female plan members, and to children to the age of 25 if in school full-time. Provision was made in a 1974 amendment(304) that where a widow's or disabled widower's pension was terminated because of remarriage and the second marriage ends for reasons other than the death of the former recipient, the pension may be reinstated. However, only one survivor pension may be received from the plan. In 1976(305) changes were made so that widowers no longer had to be disabled and dependent to draw benefits; common-law marriages were recognized. Where there were two surviving spouses, the member's designation of beneficiary was to prevail. Benefits continued to be 50 per cent of the accrued pension. In 1979(306) it was provided that a surviving spouse who had received a refund of contributions could, upon becoming eligible again for the benefit, have it reinstated by repaying the refund with interest.

The original provision from the 1923 plan, in cases of death after retirement, was to pay the difference between the pension payments actually received and the amount that would have been payable had death occurred before retirement. This prevailed until the new plan in 1948(307) which provided the balance of the 60-month guarantee to a beneficiary, or the contingent annuitant pension if selected. In 1957(308) it was provided that the benefit guarantee also applied to persons who had reached normal retirement age but had not retired. The 1966 changes expanded the benefits for members with 10 years' service or those retiring after December 31, 1965 to provide either:

- 50 per cent of pension to a widow who married the member before retirement; or

- 50 per cent of pension to a disabled dependent widower; or

- 50 per cent of pension to dependent childen until the youngest reaches age 18; if in school full-time the pension was payable to age 25; or

- 50 per cent of pension to any disabled childen until 25; or

- to a beneficiary.

The widow's pension was reduced by 2-1/2 per cent for each year the widow was more than 10 years younger than the member. If no survivor benefit was payable, the five-year guarantee applied with benefits to the estate. In all cases the payment must be at least the contributions plus credited interest. An amendment in 1967(309) provided survivor benefits, at the rate of 25 per cent of pension, for the widow, disabled widower, and children of any member who had retired before January 1, 1966 but died on or after October 1, 1967. In this case, too, the widow had to marry the pensioner before retirement began. In 1974(310) the conditions governing reinstatement of pensions terminated because of remarriage (as described for death benefits prior to retirement) applied to benefits on death after retirement, as did the 1979(311) conditions for repayment and reinstatement.

Disability Benefits

Payment of accrued benefits without actuarial reduction for persons with 10 years of service continued unchanged until 1940 except for the deletion, in 1938,(312) of the feature requiring integration of benefits with Workmen's Compensation. In 1940(313) the service requirement was increased to 15 years, but with the inception of the amended plan in 1948 no provision was made for disability benefits. Beginning in 1958(314) the provision was reintroduced for persons with 10 years' service, who received full accrued credits to the date of disability. The contingent annuitant option was not available to those in receipt of disability pensions. With the introduction of the CPP, disability benefits under the Hydro plan were subject to integration where applicable.(315) In 1976(316) a long-term disability plan was introduced, and as a consequence the disability provisions of the pension plan applied only to those employees not eligible for LTD coverage, such as those already declared disabled before April 1, 1975 and Continuing Construction Employees with 10 years' service. (The LTD plan paid 60 per cent of base earnings or 70 per cent of base earnings less CPP or Workmen's Compensation benefits, whichever is the lesser.) Pension benefits accrue during disability.

Fund Investments

The authority to establish a fund, outlined in the 1919 legislation,(317) did not set out how the monies were to be invested. Since regulations from the early years are missing we are without these details. However, we know from the amendments to legislation in 1949(318) that two funds - pension and retirement - were established. Effective November 1, 1948 the two former funds were replaced by a new pension fund to which the monies were transferred. By regulation in 1950(319) it was provided that an actuarial valuation must be carried out at least every five years. In 1967(320) that requirement was amended to the current three year interval. A legislative provision in 1960(321) allowed monies in the fund to be invested as authorized for joint stock insurance companies under the Corporations Act.(322) In 1965(323) this provision was widened to allow investment in anything authorized by the Pension Benefits Act. Hydro continues to invest in the open market.

Plan Administration

The plan is administered by the employer. A finance committee, composed of the chairman, vice-chairman, and three members of the board of directors and the President of Ontario Hydro are responsible for the overall investment policies.

NOTES

(1) The Ontario Public Service Superannuation Act, S.O. 1920, 10-11 George V, c. 4.

(2) The Ontario Public Service Superannuation Act, S.O. 1924, 14 George V, c. 7.

(3) The scale of contribution rates was as follows:

Under age 21	-	2-1/2 per cent
21 but less than 26	-	2-3/4 per cent
26 but less than 29	-	3-per cent
29 but less than 32	-	3-1/4 per cent
32 but less than 35	-	3-1/2 per cent
35 but less than 37	-	3-3/4 per cent
37 but less than 39	-	4-per cent
39 but less than 41	-	4-1/4 per cent
41 but less than 43	-	4-1/2 per cent
43 but less than 45	-	4-3/4 per cent
45 and over	-	5 per cent

(4) The Public Service Act, S.O. 1947, c. 89.

(5) The Public Service Amendment Act, S.O. 1948, c. 74.

(6) The Public Service Superannuation Amendment Act, S.O. 1960-61, c. 84.

(7) The Public Service Superannuation Amendment Act, S.O. 1961-62, c. 122.

(8) The Public Service Superannuation Amendment Act, S.O. 1966, c. 131.

(9) The Public Service Superannuation Amendment Act, S.O. 1975, c. 73.

(10) The Public Service Act, S.O. 1935, 25 George V, c. 58.

(11) The Public Service Act, S.O. 1947, c. 89.

(12) The Public Service Amendment Act, S.O. 1952-53, c. 91.

(13) The Public Service Amendment Act, S.O. 1955, c. 68.

(14) The Public Service Amendment Act, S.O. 1958, c. 89.

(15) The Ontario Public Service Superannuation Act, S.O. 1924, 14 George V, c. 7.

(16) The Public Service Amendment Act, S.O. 1933, 23 George V, c. 52.

(17) The Public Service Amendment Act, S.O. 1937, 1 George VI, c. 72.

(18) The Public Service Amendment Act, S.O. 1941, 5 George VI, c. 46.

(19) The Public Service Amendment Act, S.O. 1948, c. 74

(20) The Public Service Amendment Act, S.O. 1952-53, c. 91.

(21) The Public Service Amendment Act, S.O. 1955, c. 68.

(22) The Public Service Superannuation Amendment Act, S.O. 1960-61, c. 122.

(23) The Public Service Superannuation Amendment Act, S.O. 1971, First Session, c. 40.

(24) The Public Service Amendment Act, S.O. 1936, 1 Edward VIII, c. 56.

(25) The Public Service Amendment Act, S.O. 1948, c. 74.

(26) The Public Service Amendment Act, S.O. 1957, c. 102.

(27) The Public Service Superannuation Amendment Act, S.O. 1974, c. 37.

(28) The Public Service Amendment Act, S.O. 1931, 21 George V, c. 6.

(29) The Public Service Superannuation Amendment Act, S.O. 1965, c. 111.

(30) The Public Service Superannuation Amendment Act, S.O. 1966, c. 131.

(31) The Public Service Amendment Act, S.O. 1946, c. 83.

(32) The Public Service Amendment Act, S.O. 1947, c. 89.

(33) The Public Service Amendment Act, S.O. 1956, c. 74.

(34) The Public Service Amendment Act, S.O. 1957, c. 102.

(35) The Public Service Superannuation Amendment Act, S.O. 1964, c. 96.

(36) The Public Service Superannuation Amendment Act, S.O. 1971, Second Session, c. 10.

(37) The Public Service Superannuation Amendment Act, S.O. 1974, c. 37.

(38) The Public Service Superannuation Act, S.O. 1975, c. 73.

(39) The Public Service Amendment Act, S.O. 1933, 23 George V, c. 52.

(40) S.O. 1947, c. 89.

(41) S.O. 1951-52, c. 88.

(42) The Public Service Amendment Act, S.O. 1958, c. 89.

(43) The Public Service Superannuation Amendment Act, S.O. 1960-61, c. 84.

(44) As a result of the requirements of the Pension Benefits Act.

(45) The Public Service Superannuation Amendment Act, S.O. 1966, c. 131.

(46) The Public Service Superannuation Amendment Act, S.O. 1975, c. 73.

(47) The Public Service Act, S.O. 1927, 17 George V, c. 6.

(48) The Public Service Amendment Act, S.O. 1937, 1 George VI, c. 72.

(49) The Public Service Amendment Act, S.O. 1941, 5 George VI, c. 46.

(50) The Public Service Amendment Act, S.O. 1948, c. 74.

(51) The Public Service Amendment Act, S.O. 1952-53, c. 91.

(52) The Public Service Superannuation Act, S.O. 1960, c. 98.

(53) The Public Service Superannuation Amendment Act, S.O. 1960-61, c. 84.

(54) The Public Service Superannuation Amendment Act, S.O. 1965, c. 111.

(55) The Public Service Superannuation Amendment Act, S.O. 1966, c. 131.

(56) The Public Service Superannuation Amendment Act, S.O. 1970.

(57) The Public Service Superannuation Amendment Act, S.O. 1971, Second Session, c. 10.

(58) The Public Service Superannuation Amendment Act, S.O. 1974, c. 37.

(59) The Public Service Superannuation Amendment Act, S.O. 1975, c. 73.

(60) The Ontario Public Service Superannuation Act, 1924, 14 George VI, c. 7.

(61) The Public Service Amendment Act, S.O. 1928, 18 George V, c. 5.

(62) The Public Service Amendment Act, S.O. 1933, 23 George V, c. 52.

(63) The Public Service Act, S.O. 1947, c. 89.

(64) The Public Service Amendment Act, S.O. 1948, c. 74.

(65) The Public Service Superannuation Amendment Act, S.O. 1961-62, c. 122.

(66) The Public Service Superannuation Amendment Act, S.O. 1966, c. 131.

(67) The Public Service Superannuation Amendment Act, S.O. 1971, Second Session, c. 10.

(68) The Ontario Public Service Superannuation Amendment Act, S.O. 1922, 12-13 George V, c. 5.

(69) The Public Service Amendment Act, S.O. 1937, 1 George VI, c. 72.

(70) The Public Service Amendment Act, S.O. 1928, 18 George V, c. 5.

(71) The Public Service Amendment Act, S.O. 1933, 23 George V, c. 52.

(72) The Public Service Amendment Act, S.O. 1938, 2 George VI, c. 37.

(73) The Public Service Act, S.O. 1947, c. 89.

(74) The Public Service Amendment Act, S.O. 1958, c. 89.

(75) The Public Service Superannuation Amendment Act, S.O. 1960-61, c. 84.

(76) The Public Service Superannuation Amendment Act, S.O. 1966, c. 131.

(77) The Public Service Superannuation Amendment Act, S.O. 1968-69, c. 103.

(78) The Public Service Superannuation Amendment Act, S.O. 1971, Second Session, c. 10.

(79) The Public Service Superannuation Amendment Act, S.O. 1974, c. 37.

(80) The Public Service Superannuation Amendment Act, S.O. 1975, c. 73.

(81) The Public Service Superannuation Amendment Act, S.O. 1933, 23 George V, c. 52.

(82) The Public Service Act, S.O. 1947, c. 89.

(83) The Public Service Amendment Act, S.O. 1951-52, c. 88.

(84) The Public Service Superannuation Amendment Act, S.O. 1966, c. 131.

(85) The Public Service Superannuation Amendment Act, S.O. 1968-69, c. 103.

(86) The Public Service Superannuation Amendment Act, S.O. 1971, Second Session, c. 10.

(87) The Public Service Superannuation Amendment Act, S.O. 1974, c. 37.

(88) The Public Service Amendment Act, S.O. 1931, 21 George V, c. 6.

(89) The Public Service Act, S.O. 1947, c. 89.

(90) The Public Service Amendment Act, S.O. 1951-52, c. 88.

(91) The Public Service Superannuation Amendment Act, S.O. 1965, c. 111.

(92) The Public Service Superannuation Amendment Act, S.O. 1966, c. 131.

(93) The Public Service Superannuation Amendment Act, S.O. 1974, c. 37.

(94) The Public Service Superannuation Amendment Act, S.O. 1975, c. 73.

(95) The Public Service Amendment Act, S.O. 1932, 22 George V, c. 5.

(96) The Public Service Amendment Act, S.O. 1959, c. 84.

(97) The Public Service Superannuation Amendment Act, S.O. 1974, c. 37.

(98) The Teachers' and Inspectors' Superannuation Act, S.O. 1917, 7 George V, c. 58. Royal Assent was granted on April 12.

(99) The Teachers' and Inspectors' Superannuation Act, s. 2(c).

(100) Ibid., s. 11(5).

(101) An Act to amend the School Laws, S.O. 1920, 10-11 George V, c. 100.

(102) An Act to amend the School Laws, S.O. 1933, 23 George V, c. 58.

(103) An Act to amend the School Laws, S.O. 1934, 24 George V, c. 52.

(104) School Laws Amendment Act, S.O. 1936, 1 Edward VIII, c. 55.

(105) School Laws Amendment Act, S.O. 1943, 7 George VI, c. 26.

(106) School Laws Amendment Act, S.O. 1945, 9 George VI, c. 8.

(107) The Teachers' and Inspectors' Superannuation Act, S.O. 1946, 10 George VI, c. 96.

(108) The Teachers' Superannuation Act, S.O. 1949, c. 102.

(109) An Act to amend The Teachers' Superannuation Act, S.O. 1949, S.O. 1950, c. 84.

(110) The Teachers' Superannuation Act, S.O. 1953, c. 103.

(111) The Teachers' Superannuation Act, S.O. 1954, c. 93.

(112) The Teachers' Superannuation Act, S.O. 1955, c. 86.

(113) The Teachers' Superannuation Act, S.O. 1966, c. 152.

(114) The Teachers' Superannuation Act, S.O. 1967, c. 99.

(115) The Teachers' Superannuation Act, S.O. 1968-69, c. 126.

(116) An Act to amend the School Laws, S.O. 1918, 8 George V, c. 51.

(117) An Act to amend The Teachers' and Inspectors' Superannuation Act, S.O. 1919, 9 George V, c. 74.

(118) An Act to amend the School Laws, S.O. 1922, 12-13 George V, c. 98.

(119) An Act to amend the School Laws, S.O. 1932, 22 George V, c. 42.

(120) School Laws Amendment Act, S.O. 1941, 5 George VI, c. 52.

(121) The Teachers' and Inspectors' Superannuation Act, S.O. 1946, 10 George VI, c. 96.

(122) The Teachers' Superannuation Act, S.O. 1949, c. 102.

(123) An Act to amend The Teachers' and Inspectors' Superannuation Act, 1949, S.O. 1950, c. 84.

(124) In 1951 the Ontario College of Art was added, in 1953 the term "normal schools" was deleted and replaced by "teachers' colleges"; 1957 saw the addition of "provincial technical or polytechnical institute" and the Lakeland College of Arts, Science and Technology; Ryerson Polytechnical was added in 1964.

(125) The Teachers' Superannuation Act, S.O. 1957, c. 122.

(126) See for example The Teachers' Superannuation Act, S.O. 1962-63, c. 138 concerning the Ontario College of Education, or The Teachers' Superannuation Act, S.O. 1960-61, c. 98 concerning a special group from the University of Toronto.

(127) An Act to amend The Teachers' and Inspectors' Superannuation Act, S.O. 1919, 9 George V, c. 74.

(128) School Laws Amendment Act, S.O. 1943, 7 George VI, c. 26.

(129) School Laws Amendment Act, S.O. 1936, 1 Edward VIII, c. 55.

(130) School Laws Amendment Act, S.O. 1944, 8 George VI, c. 56.

(131) School Laws Amendment Act, S.O. 1945, 9 George VI, c. 8.

(132) The Teachers' and Inspectors' Superannuation Act, S.O. 1946, 10 George VI, c. 96.

(133) The Teachers' Superannuation Act, S.O. 1949, c. 102.

(134) The Teachers' Superannuation Act, S.O. 1955, c. 86.

(135) The Teachers' Superannuation Act, S.O. 1957, c. 122.

(136) School Laws Amendment Act, S.O. 1936, 1 Edward VIII, c. 55.

(137) The Teachers' and Inspectors' Superannuation Act, S.O. 1946, 10 George VI, c. 96.

(138) The Teachers' Superannuation Act, S.O. 1949, c. 102.

(139) An Act to amend The Teachers' Superannuation Act, 1949, S.O. 1950, c. 84.

(140) The Teachers' Superannuation Act, S.O. 1953, c. 103.

(141) The Teachers' Superannuation Act, S.O. 1961-62, c. 137.

(142) The Teachers' Superannuation Act, S.O. 1964, c. 115.

(143) The Teachers' Superannuation Act, S.O. 1966, c. 152.

(144) School Laws Amendment Act, S.O. 1944, 8 George VI, c. 56.

(145) The Teachers' Superannuation Act, S.O. 1966, c. 152.

(146) School Laws Amendment Act, S.O. 1945, 9 George VI, c. 8.

(147) The Teachers' Superannuation Act, S.O. 1949, c. 102.

(148) The Teachers' Superannuation Act, S.O. 1971, c. 9.

(149) The Teachers' and Inspectors' Superannuation Act, S.O. 1917, 7 George V, c. 58.

(150) An Act to amend the School Laws, S.O. 1921, 11 George V, c. 89.

(151) An Act to amend the School Laws, S.O. 1922, 12-13 George V, c. 98.

(152) An Act to amend the School Laws, S.O. 1925, 15 George V, c. 78.

(153) An Act to amend the School Laws, S.O. 1932, 22 George V, c. 42.

(154) An Act to amend the School Laws, S.O. 1933, 23 George V, c. 58.

(155) School Laws Amendment Act, S.O. 1936, 1 Edward VIII, c. 55.

(156) School Laws Amendment Act, S.O. 1945, 9 George VI, c. 8.

(157) The Teachers' and Inspectors' Superannuation Act, S.O. 1946, 10 George VI, c. 96.

(158) The Teachers' Superannuation Act, S.O. 1949, c. 102.

(159) An Act to amend The Teachers' Superannuation Act, 1949, S.O. 1950, c. 84.

(160) The Teachers' Superannuation Act, S.O. 1955, c. 86.

(161) The Teachers' Superannuation Act, S.O. 1964, c. 115.

(162) The Teachers' Superannuation Act, S.O. 1966, c. 152.

(163) The Teachers' Superannuation Act, S.O. 1971, c. 9.

(164) The Teachers' Superannuation Act, S.O. 1973, c. 36.

(165) The Teachers' and Inspectors' Superannuation Act, S.O. 1917, 7 George V, c. 58.

(166) School Laws Amendment Act, S.O. 1930, 20 George V, c. 63.

(167) School Laws Amendment Act, S.O. 1933, 23 George V, c. 58.

(168) The Teachers' and Inspectors' Superannuation Act, S.O. 1946, 10 George VI, c. 96.

(169) The Teachers' Superannuation Act, S.O. 1966, c. 152.

(170) An Act to amend the School Laws, S.O. 1918, 8 George V, c. 51.

(171) An Act to amend the School Laws, S.O. 1920, 10-11 George V, c. 99.

(172) School Laws Amendment Act, S.O. 1932, 22 George V, c. 42.

(173) The Teachers' and Inspectors' Superannuation Act, S.O. 1946, c. 96.

(174) The Teachers' Superannuation Act, S.O. 1949, c. 102.

(175) An Act to amend The Teachers' Superannuation Act, 1949, S.O. 1950, c. 84.

(176) The Teachers' Superannuation Act, S.O. 1953, c. 103.

(177) The Teachers' Superannuation Act, S.O. 1955, c. 86, s. 1(2).

(178) The Teachers' Superannuation Act, S.O. 1966, c. 152.

(179) An Act to amend The Teachers' and Inspectors' Superannuation Act, S.O. 1919, 9 George V, c. 74.

(180) An Act to amend the School Laws, S.O. 1920, 10-11 George V, c. 99.

(181) School Laws Amendment Act, S.O. 1935, 25 George V, c. 64.

(182) School Laws Amendment Act, S.O. 1938, 2 George VI, c. 35.

(183) School Laws Amendment Act, S.O. 1941, 5 George VI, c. 52.

(184) School Laws Amendment Act, S.O. 1943, 7 George VI, c. 26.

(185) The Teachers' and Inspectors' Superannuation Act, S.O. 1946, 10 George VI, c. 96.

(186) The Teachers' Superannuation Act, S.O. 1949, c. 102.

(187) The Teachers' Superannuation Act, S.O. 1959, c. 99.

(188) The Teachers' Superannuation Act, S.O. 1966, c. 152.

(189) An Act to establish the Ontario Municipal Employees Retirement System, S.O. 1961-62, c. 97.

(190) Ontario Regulation, 88/65.

(191) Ontario Regulation, 249/65.

(192) Ontario Regulation, 8/66.

(193) Ontario Regulation, 293/68.

(194) Ontario Regulation, 208/71.

(195) Ontario Regulation, 392/72.

(196) Ontario Regulation, 636/73.

(197) Ontario Regulation, 722/74.

(198) Ontario Regulation, 1035/75.

(199) Ontario Regulation, 130/78.

(200) The Ontario Municipal Employees Retirement System Amendment Act, S.O. 1964, c. 82.

(201) The Ontario Municipal Employees Retirement System Amendment Act, S.O. 1965, c. 90.

(202) Ontario Regulation, 396/67.

(203) Ontario Regulation, 189/72.

(204) Ontario Regulation, 419/72.

(205) The Ontario Municipal Employees Retirement System Amendment Act, S.O. 1976, Second Session, c. 27.

(206) Ontario Regulation, 936/77.

(207) Ontario Regulation, 249/65.

(208) Ontario Regulation, 936/77.

(209) Ontario Regulation, 8/66.

(210) Ontario Regulation, 798/76.

(211) Ontario Regulation, 88/65.

(212) Ontario Regulation, 936/77.

(213) Brief 123: from the Ontario Municipal Employees Retirement Board, p. 1.

(214) Ontario Regulation, 88/65.

(215) Ontario Regulation, 936/77.

(216) Ontario Regulation, 8/66.

(217) Ontario Regulation, 42/70.

(218) Ontario Regulation, 189/72.

(219) Ontario Regulation, 392/72.

(220) Ontario Regulation, 8/74.

(221) Ontario Regulation, 936/77.

(222) Ontario Regulation, 8/66.

(223) Ontario Regulation, 456/75.

(224) Ontario Regulation, 936/77.

(225) The Ontario Municipal Employees Retirement System Amendment Act, S.O. 1968, c. 88.

(226) The Ontario Municipal Employees Retirement System Amendment Act, S.O. 1970, c. 131.

(227) The Ontario Municipal Employees Retirement System Amendment Act, S.O. 1973, c. 159.

(228) The Ontario Municipal Employees Retirement System Amendment Act, S.O. 1974, c. 102.

(229) The Ontario Municipal Employees Retirement System Amendment Act, S.O. 1965, c. 90.

(230) Ontario Regulation, 435/67.

(231) Ontario Regulation, 42/70.

(232) Ontario Regulation, 793/74.

(233) Ontario Regulation, 456/75.

(234) Ontario Regulation, 798/76.

(235) 9 George V, c. 16, s. 6cc and 6ccc.

(236) Sources differ as to the scale in use, one citing a range from 2.5 per cent to 5.5 per cent and the other citing 3 per cent to 6 per cent, as shown below:

Age at entry	Contribution rate Source I	Source II
	(Per cent)	
Up to 30	2.5	3.0
30 to 31	2.65	3.15
31 to 32	2.95	3.45
32 to 33	3.25	3.75
33 to 34	3.55	4.05
34 to 35	3.85	4.35
35 to 36	4.15	4.65
36 to 37	4.3	4.8
37 to 38	4.45	4.9
38 to 39	4.6	5.1
39 to 40	4.75	5.25
40 to 41	4.9	5.4
41 to 42	5.05	5.55
42 to 43	5.2	5.7
43 to 44	5.35	5.85
44 to 45	5.5	6.0

(237) Order-in-Council of June 25, 1926 with effective date March 26, 1926.

(238) Order-in-Council of December 15, 1938 with effective date November 1, 1938.

(239) Order-in-Council of December 28, 1939 with effective date January 1, 1940.

(240) Ontario Regulation, 231/50.

(241) Ontario Regulation, 80/58.

(242) Ontario Regulation, 16/62.

(243) Ontario Regulation, 345/65.

(244) Ontario Regulation, 309/67.

(245) Ontario Regulation, 22/71.

(246) Ontario Regulation, 80/58.

(247) Ontario Regulation, 347/67.

(248) Ontario Regulation, 245/68.

(249) Ontario Regulation, 135/71.

(250) Ontario Regulation, 123/74.

(251) Ontario Regulation, 100/75.

(252) Ontario Regulation, 315/76.

(253) Ontario Regulation, 694/77.

(254) Ontario Regulation, 219/79.

(255) Order-in-Council of June 25, 1926 with effective date March 26, 1926.

(256) S.O. 1949, c. 73.

(257) Ontario Regulation, 9/60.

(258) Ontario Regulation, 309/67.

(259) The Power Commission Act, S.O. 1968, c. 98.

(260) Ontario Regulation, 22/71.

(261) Ontario Regulation, 231/50.

(262) Ontario Regulation, 345/65.

(263) Ontario Regulation, 309/67.

(264) Ontario Regulation, 231/50.

(265) Ontario Regulation, 309/67.

(266) Ontario Regulation, 22/71.

(267) Ontario Regulation, 219/79.

(268) Order-in-Council of June 25, 1926 with effective date March 26, 1926.

(269) Ontario Regulation, 231/50.

(270) Ontario Regulation, 309/67.

(271) Ontario Regulation, 315/76.

(272) The Power Commission Act, S.O. 1949, c. 73.

(273) Order-in-Council of June 25, 1926 with effective date March 26, 1926.

(274) Ontario Regulation, 231/50.

(275) Ontario Regulation, 218/55.

(276) Ontario Regulation, 33/65.

(277) Ontario Regulation, 309/67.

(278) Ontario Regulation, 22/71.

(279) Ontario Regulation, 219/79.

(280) Ontario Regulation, 213/61.

(281) Ontario Regulation, 309/67.

(282) Ontario Regulation, 22/71.

(283) Ontario Regulation, 165/73.

(284) Ontario Regulation, 231/50.

(285) Ontario Regulation, 345/65.

(286) Ontario Regulation, 309/67.

(287) Ontario Regulation, 22/71.

(288) Ontario Regulation, 315/76.

(289) Order-in-Council of June 25, 1926 with effective date March 26, 1926.

(290) Order-in-Council of December 28, 1939 with effective date January 1, 1940.

(291) Ontario Regulation, 231/50.

(292) Ontario Regulation, 16/62.

(293) Ontario Regulation, 22/71.

(294) Ontario Regulation, 315/76.

(295) Ontario Regulation, 287/59.

(296) Ontario Regulation, 212/62.

(297) Ontario Regulation, 9/64.

(298) Ontario Regulation, 345/65.

(299) Order-in-Council of June 25, 1926 with effective date March 26, 1926.

(300) Ontario Regulation, 231/50.

(301) Ontario Regulation, 80/58.

(302) Ontario Regulation, 16/62.

(303) Ontario Regulation, 309/67.

(304) Ontario Regulation, 123/74.

(305) Ontario Regulation, 315/76.

(306) Ontario Regulation, 219/79.

(307) Ontario Regulation, 231/50.

(308) Ontario Regulation, 80/58.

(309) Ontario Regulation, 347/67.

(310) Ontario Regulation, 123/74.

(311) Ontario Regulation, 219/79.

(312) Order-in-Council of December 15, 1938 with effective date November 1, 1938.

(313) Order-in-Council of December 28, 1939 with effective date January 1, 1940.

(314) Ontario Regulation, 80/58.

(315) Ontario Regulation, 309/67.

(316) Ontario Regulation, 315/76.

(317) The Power Commission Act, S.O. , 9 Geoge V, c. 16.

(318) The Power Commission Act, S.O. 1949, c. 73.

(319) Ontario Regulation, 231/50.

(320) Ontario Regulation, 309/67.

(321) The Power Commission Act, S.O. 1960, c. 85.

(322) The Corporations Act, S.O. 1953, c. 19.

(323) The Power Commission Act, S.O. 1965, c. 100.